INSTALLATION MANUAL

Neptis

SLT-B
LET-B
SMT-B
SLT
LET
SMT

Operator for automatic swing doors

English
Translation of the ORIGINAL INSTRUCTIONS

Label Spa - Via Ilariuzzi, 17/A - S. Pancrazio P.se - 43126 PARMA - ITALY

03/2013 - Rel.1.0

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DECLARATION OF INCORPORATION OF PARTLY ASSEMBLED MACHINERY

Manufacturer: Label S.p.A.

Address: Via Ilariuzzi 17/A - 43126 San Pancrazio Parmense, PARMA - ITALY

Declare that: the operator NEPTIS type LET, SLT, SMT, LET-B, SLT-B, SMT-B

Serial number:

realized to control pedestrial swing automatic doors
complies with the essential safety requirements of the following directives:

- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive 2004/108/EC

Label declares that the operator NEPTIS has been realized to be incorporated in a machine or to be assembled with other devices to constitute a machine covered by Machine Directive 2006/42/EC.

Label declares as well that the product cannot be operated until the final machine, where the product is incorporated, has been certified as compliant with the Machine Directive 2006/42/EC.

European Harmonized standards applied:
EN 13849-1
EN 13849-2
EN 61000-6-2
EN 61000-6-3
EN 60335-1
EN16005
Label undertake to submit, upon suitably justified request of the national authorities, information related to the partly completed machinery.

PERSON AUTHORIZED TO ESTABLISH THE TECHNICAL DOCUMENTATION:
Bruno Baron Toaldo
Via Ilariuzzi, 17/A

Parma, 10/01/2013

The Chairman
Bruno Baron Toaldo

INDEX:

1) MODEL DESCRIPTION page 5
2) TECHNICAL SPECIFICATIONS 5

MECHANICAL SECTION

3) COMPONENTS OF THE NEPTIS OPERATOR 6
4) PRELIMINARY CHECKS 7
5) TECHNICAL DRAWINGS 8
6) MOVEMENT TRANSMISSION ARMS 13
7) PREPARING AND ASSEMBLING THE OPERATOR 16
8) REMOVING THE ARM 18
9) NEPTIS OPERATORS WITH A BATTERY 19
10) HOW TO RESET THE SPRING PRELOAD 20

ELECTRONIC SECTION page 21

11) ELECTRIC ARRANGEMENTS 21
12) ELECTRIC CONNECTIONS 22
13) POWER SUPPLY MODULE AND PWN-T ELECTRIC WIRING 23
14) L-NEP LOGIC BOARD 25
15) N-DSEL DIGITAL PROGRAMMER – SCOPE AND CONNECTIONS 25
16) COMMISSIONING OF AUTOMATED DEVICE (INITIAL SET-UP) 26
17) PROGRAM SELECTORS 30
18) GENERAL PROGRAMMING MENU 33
19) FUNCTIONS AND REGULATIONS 34
20) LANGUAGE 42
21) PASSWORD MANAGEMENT 42
22) INFORMATION AND EVENTS MEMORY 46
23) MAINTENANCE 49
24) ELECTRIC LOCK APPLICATION 49
25) SAFETY SENSOR DEVICES 50
26) N-BAT BATTERY MODULE 52
27) EN/RF1 RADIO RECEIVER 53
28) DISABLED PEOPLE COURTESY FUNCTION 55
29) DOUBLE LEAF DOOR SET 55
30) INTERLOCK SYSTEM 60
31) MEANING OF THE ACOUSTIC SIGNAL 62
32) MAINTENANCE PROGRAM 63

GENERAL SAFETY WARNINGS

Carefully read this instruction manual for the safe installation and operation of the automatic door.
Improper installation and incorrect use of the product could cause serious injury.
Keep the instruction manual for future reference.
The installer must provide all the information about operation and provide the system user with the user manual delivered with the product.

MEANING OF THE SYMBOLS USED IN THESE INSTRUCTIONS

DANGER: Indication of dangerous situations that could cause material damage and personal injury.

WARNING: Identifies the procedures that must be understood and followed to prevent product damage or malfunctions.

NOTE: To point out and place attention on important information.

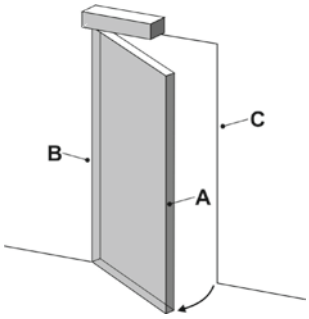
GENERAL SAFETY OBLIGATIONS

The mechanical and electric installation must be performed by specialised personnel in accordance with current directives and regulations.
The installer must make sure that the structure to be automated is stable and robust and if necessary, make it this way by making structural modifications.
Keep product and packaging materials out of children's reach, as they might be a source of danger.
Do not let the children stay or play within the range of the door.
This product was designed and built exclusively for the purpose described in this documentation. Any other use that is not specifically indicated could adversely impact the condition of the product and the safety of people.
Label accepts no responsibility for incorrect product installation and usage, as well as for any damages caused by changes made without its prior consent.
Label is not responsible for the construction of the fixtures to be motorised.
The IP31 degree of protection requires that the operator is installed only on the inner side of buildings.
This product cannot be installed in explosive environments or atmospheres, or in the presence of flammable gases or fumes.
Make sure that the characteristics of the electric distribution network are compatible with the technical data indicated in this manual and that upstream of the system there is an omnipolar switch with an opening distance of the contacts of at least 3mm and a residual current device.
Connect the ground conduit of the electric system.
The automatic door must be checked, started up and tested by skilled and well-prepared personnel.
A technical dossier must be prepared for every automation as required by the Machine Directive.
Disconnect the power supply before working on the automation and before opening the cover.
Maintenance is of fundamental importance for the proper operation and safety of the automation. Check the efficiency of all parts every six months.
Use only original spare parts for maintenance and when replacing product components.
Cleaning operations must be performed with the power supply disconnected, using a damp cloth. Do not deposit or let water or other liquids penetrate into the Neptis operator or the accessories that are part of the system.

It is recommended to take out a maintenance contract.

Risk assessment

The automatic swinging doors must be designed and installed in a way to protect users against the risk and danger of crushing, impact and shearing between the door and adjacent parts near the door.
The person responsible for starting-up the automation must perform a risk assessment based on the place of installation and the type of users that could use the automatic door.
The Neptis operator can be adjusted in order to satisfy the Low energy requirements (movement force and speed control), as indicated by standard EN16005; however, if the door will be used by the elderly, children or disabled individuals, protective devices (sensors) that comply with standard EN12978 must be installed.



A = Main closing edge

B = Secondary closing edge

C = Opposite closing edge

The dangers of crushing and shearing related to the secondary closing edge must be prevented either structurally or by supplementary protective measures (rubber covers, for example).
Any residual risks must be properly signalled.

1) MODEL DESCRIPTION

The Neptis operator has an electro-mechanical motor for opening the swing pedestrian doors. Depending on the type of operator, reclosure is performed with a spring or a motor.
The electronic control equipment is located inside the operator.

A list of the operator models for Neptis swinging doors produced by Label is provided below:

- **NEPTIS“SLT”**
  with reclosing spring, for maximum leaf weight of 250 Kg.
- **NEPTIS“SLT-B”**
  with built-in emergency battery, reclosure spring, for maximum leaf weight of 250 Kg.
- **NEPTIS“LET”**
  with reclosing spring, for maximum leaf weight of 120 Kg.
- **NEPTIS“LET-B”**
  with built-in emergency battery, reclosure spring, for maximum leaf weight of 120 Kg.
- **NEPTIS“SMT”**
  motor-only closure, for maximum leaf weight of 250 Kg.
- **NEPTIS“SMT-B”**
  with built-in emergency battery, motor-only closure, for maximum leaf weight of 250 Kg.

All Neptis operator models can be used with a slide pull arm or with an articulated push arm.
The model is to be selected based on the weight and length of the door leaf, the type of reclosure (spring or motor-only) and if an emergency battery is required.
The operator must be installed in indoor environments.
All models are reversible, therefore in the case of a power failure the door can be opened manually.
Before starting with assembly check the technical drawings in paragraph 5. A drawing of the application is provided for every type of arm, with the installation dimensions and a chart that provides the weight limits based on the length of the door leaf, depending on the operator model.
The technical data provided in the charts refers to a typical installation, but the data can be influenced by variables present in every system, such as friction, environmental conditions, alignment of the leaf hinge, etc....

2) TECHNICAL SPECIFICATIONS

POWER SUPPLY	**115/230Vac +/-10%, 50-60Hz**
POWER	**120W**
POWER SUPPLY OF EXTERNAL ACCESSORIES	**24Vdc, 1A**
ELECTRIC MOTOR	**24Vdc**
OPERATOR DIMENSIONS (LxHxD)	**550 x 110 x 120 mm.**
WEIGHT models LET, SLT, SMT	**9.5 Kg.**
WEIGHT models LET-B, SLT-B, SMT-B	**11 Kg.**
PROTECTION DEGREE	**IP31**
AMBIENT TEMPERATURE	**-15°C +50°C**
FREQUENCY OF USE	**continuous**
LIMIT SWITCH AND ANTICRUSHING SAFETY	**encoder controlled**
REACTION TO OBSTACLES	**reversal of direction**
OPENING TIME for 95°	**4 - 12 seconds adjustable**
CLOSING TIME for 95°	**5 - 15 seconds adjustable**
PAUSE TIME	**0 - 20 seconds adjustable**

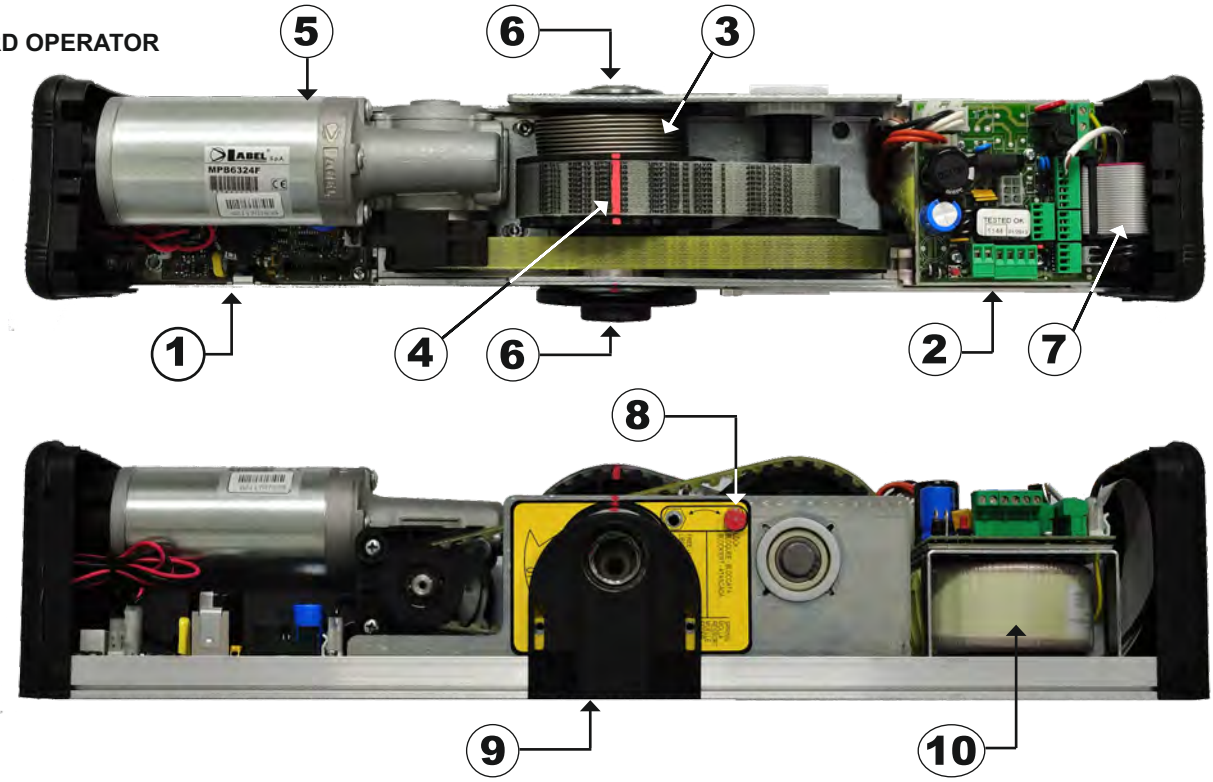
REFERENCE VALUES FORCE

	NEPTIS-LET, LET-B				NEPTIS-SLT, SLT-B				NEPTIS-SMT, SMT-B			
	ARTICOULATED ARM		SLIDING ARM		ARTICOULATED ARM		SLIDING ARM		ARTICOULATED ARM		SLIDING ARM	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
MANUAL CLOSING TORQUE (Nm)	14	26	14	24	14	26	14	24	7	7	6	6
AUTOMATIC CLOSING TORQUE (Nm)	14	65	14	65	14	140	14	140	20	140	18	140
MANUAL TORQUE TO OPEN (Nm)	22	32	20	30	22	32	20	30	7	7	6	6
AUTOMATIC OPENING TORQUE (Nm)	22	65	22	65	22	140	22	140	20	140	18	140

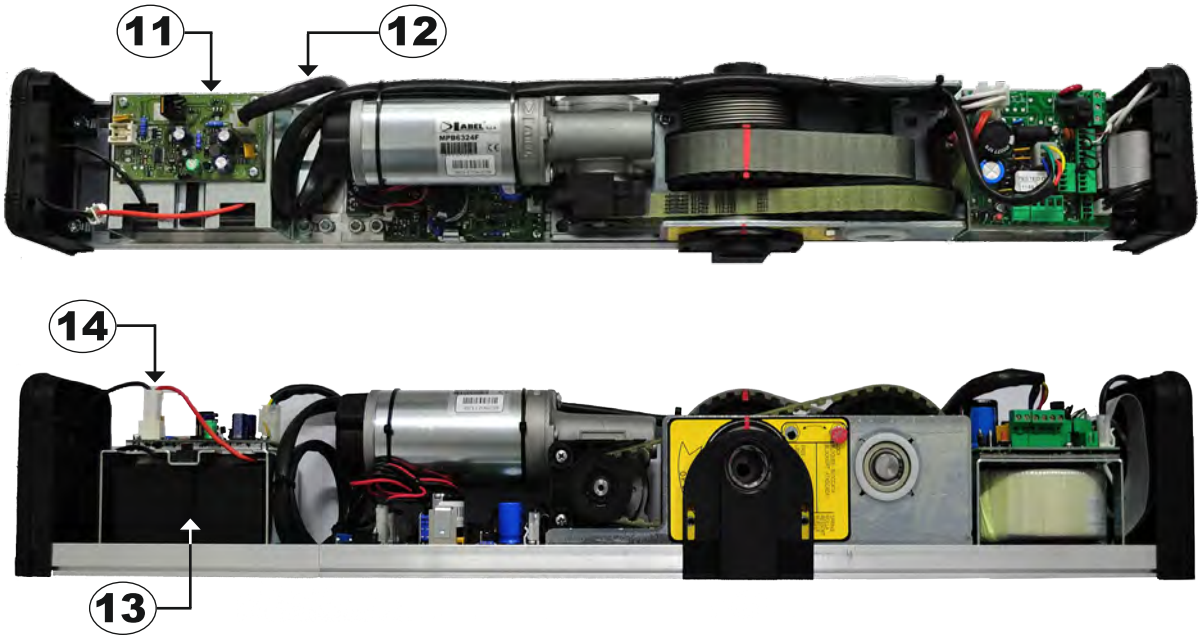
MECHANICAL SECTION

3) COMPONENTS OF THE NEPTIS OPERATOR

STANDARD OPERATOR



OPERATOR WITH BATTERY:



LEGEND:

1	L-NEP LOGIC CARD
2	PWN-T ELECTRICAL WIRING AND POWER SUPPLY CARD
3	RECLOSURE SPRING (models SLT, LET)
4	SPRING PRELOAD REFERENCE LINE
5	GEARMOTOR WITH ENCODER
6	MOTION TRANSMISSION SHAFT OUTPUT
7	INNER WIRING BETWEEN THE L-NEP and PWN-T CARDS
8	SPRING PRELOAD LOCKING SCREW
9	PLASTIC PLATE
10	TRANSFORMER
11	N-BAT MODULE, BATTERY CHARGER CARD
12	WIRING BETWEEN N-BAT MODULE and PWN-T CARD
13	N-BAT MODULE, BATTERIES
14	BATTERY CABLE CONNECTION

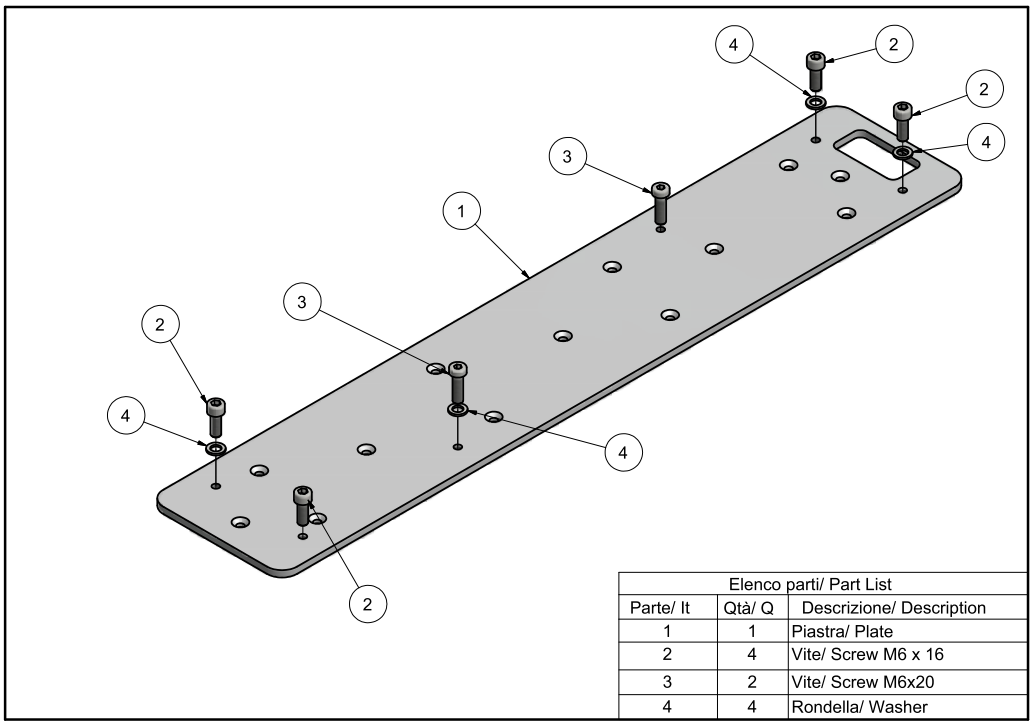
4) PRELIMINARY CHECKS

Before assembling the automation, make sure the following requirements have been met:

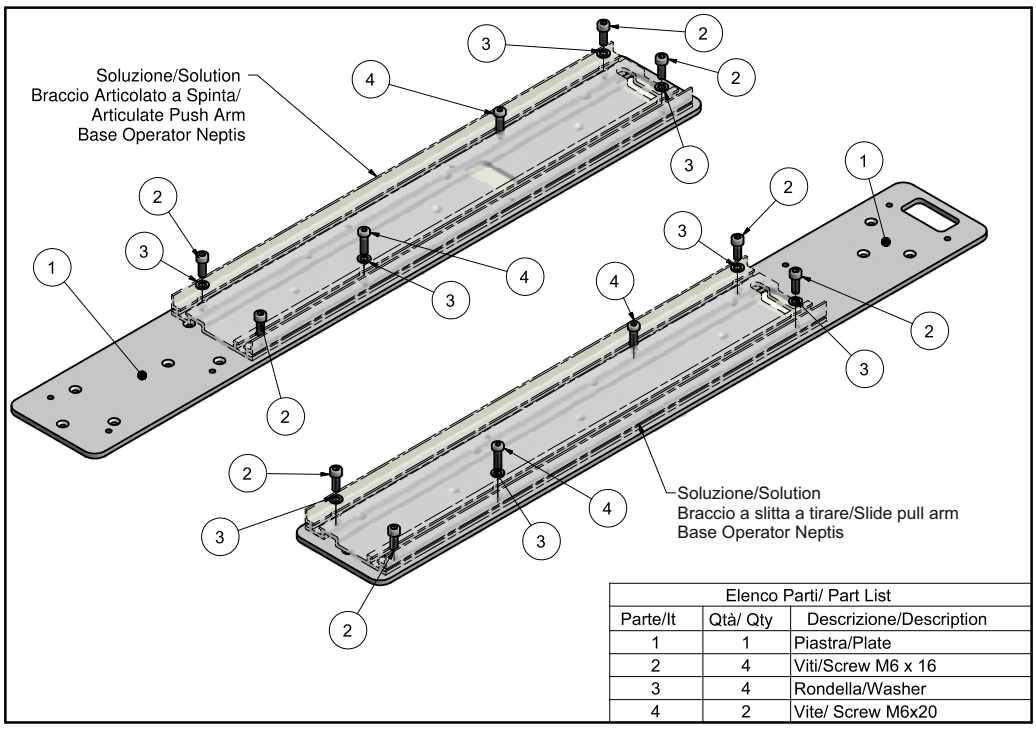
- The operator support structure must be solid and must not show any significant deformations.
- The leaf structure must be rigid and robust.
- The leaf pivots must be suitable and in a good condition.
- The lenght and weight of the leaf must lie within the operating limits of the operator (maximum recomended height 3 mt).
- The leaf must move in a regular manner without friction along its entire stroke.
- The door requires mechanical end stops consisting of a mechanical retainer in the opening position and a final stopper when closed.

The mechanical stop in the open position is not supplied with the operator.

If the wall to which the operator will be fastened is not suitably resistant and reliable, a predrilled metal plate is available, upon request, to which the Neptis can be fixed.
There are two fixing plate models, the FIXPLATE for Neptis operators without a battery and FIXPLATE-B for Neptis operators with a built-in battery.



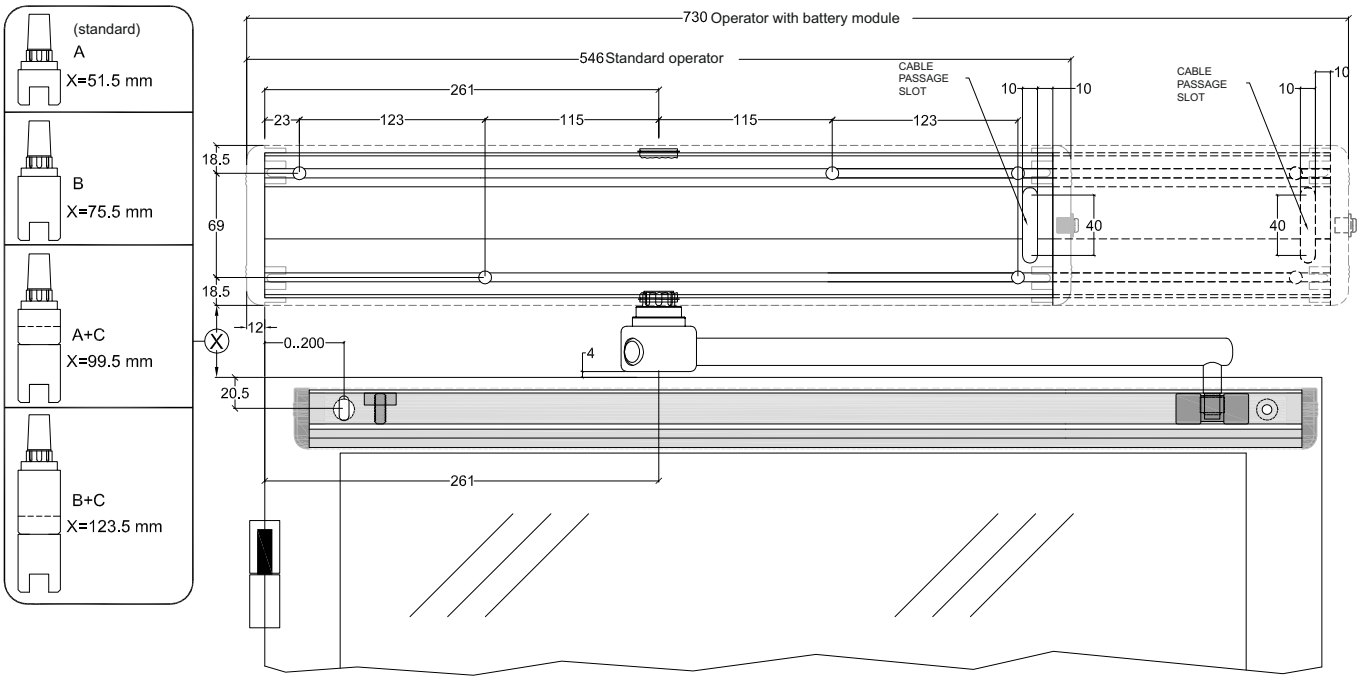
Elenco parti/ Part List		
Parte/ It	Qtà/ Q	Descrizione/ Description
1	1	Piastra/ Plate
2	4	Vite/ Screw M6 x 16
3	2	Vite/ Screw M6x20
4	4	Rondella/ Washer



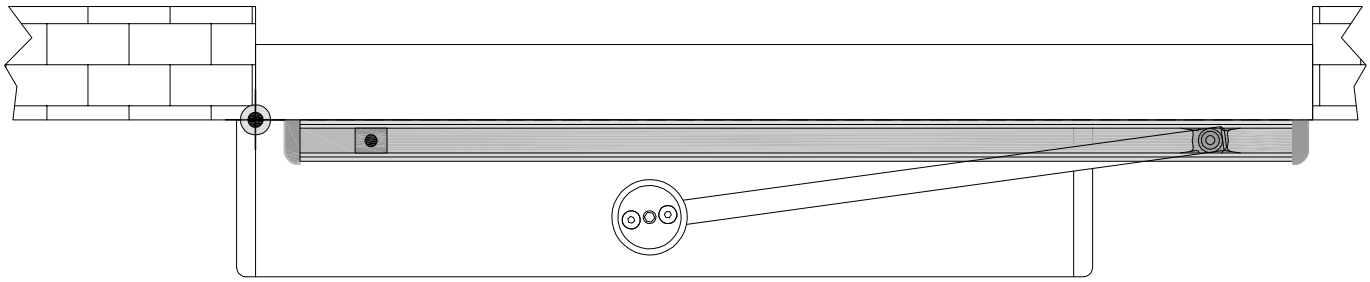
Elenco Parti/ Part List		
Parte/It	Qtà/ Qty	Descrizione/Description
1	1	Piastra/Plate
2	4	Viti/Screw M6 x 16
3	4	Rondella/Washer
4	2	Vite/ Screw M6x20

5) TECHNICAL DRAWINGS

5.1) ASSEMBLY OF THE OPERATOR ON THE LINTEL FROM THE HINGE SIDE
BDT2 SLIDE PULL ARM
For doors that open inwards (seen from the operator side)



A = STANDARD TAPERED PIN
If it is necessary to increase the distance between the operator and the arm (dimension X), replace the standard tapered pin with the following optional extensions:
B = EXTB-Z TAPERED PIN (optional) for mm.24 shaft extension
C = EXTC-Z EXTENSION (optional) FOR TAPERED PIN for mm.48 shaft extension

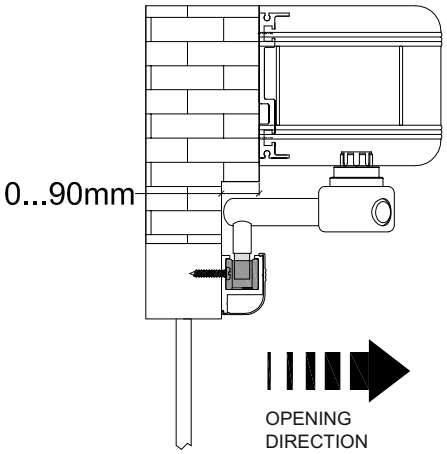


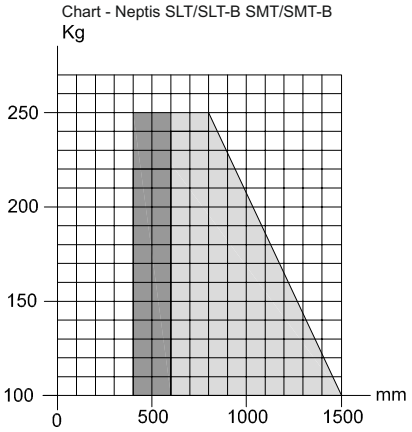
Usable leaf length and weight

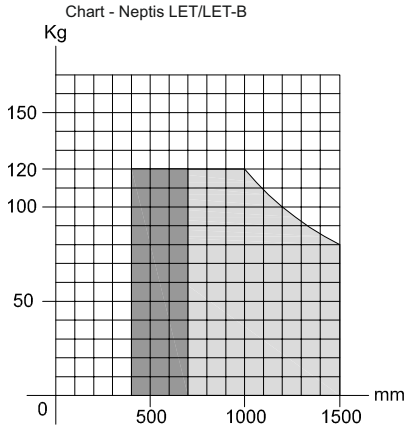
Usable leaf length and weight with different fastening dimensions Assembly drawings available upon request

UNUSABLE leaf length and weight

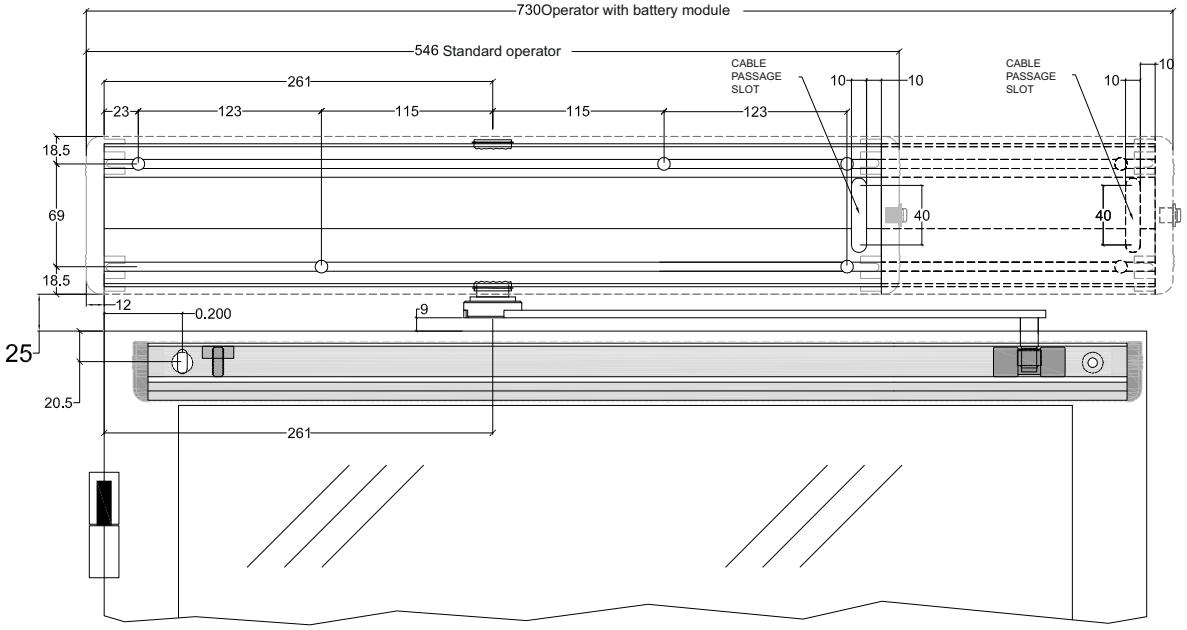
For this application, please consider that the gearmotor must be on the hinged side of the door for a correct movement direction when opening.

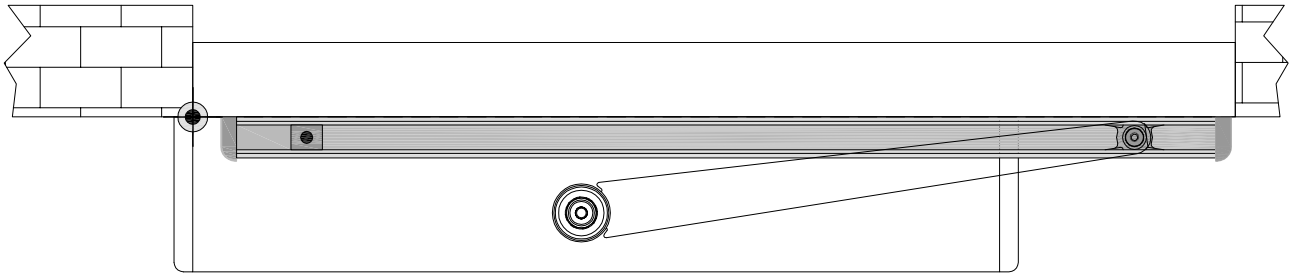






5.2) ASSEMBLY OF THE OPERATOR ON THE LINTEL FROM THE HINGE SIDE
BDT2R55 SLIDE PULL ARM
For doors that open inwards (seen from the operator side)





For this application, please consider that the gearmotor must be on the hinged side of the door for a correct movement direction when opening.

Usable leaf length and weight

Usable leaf length and weight with different fastening dimensions Assembly drawings available upon request

UNUSABLE leaf length and weight

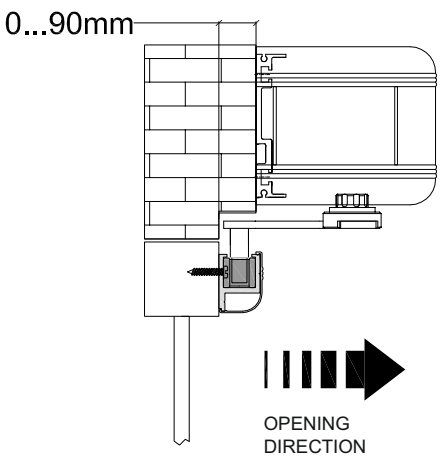


Chart - Neptis SLT/SLT-B SMT/SMT-B

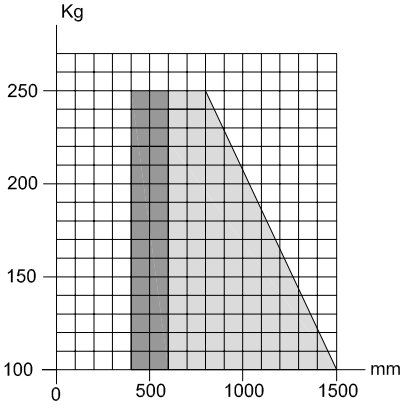
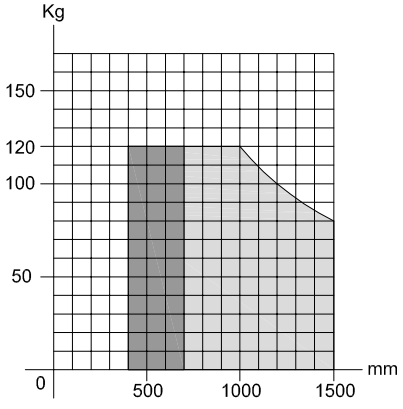
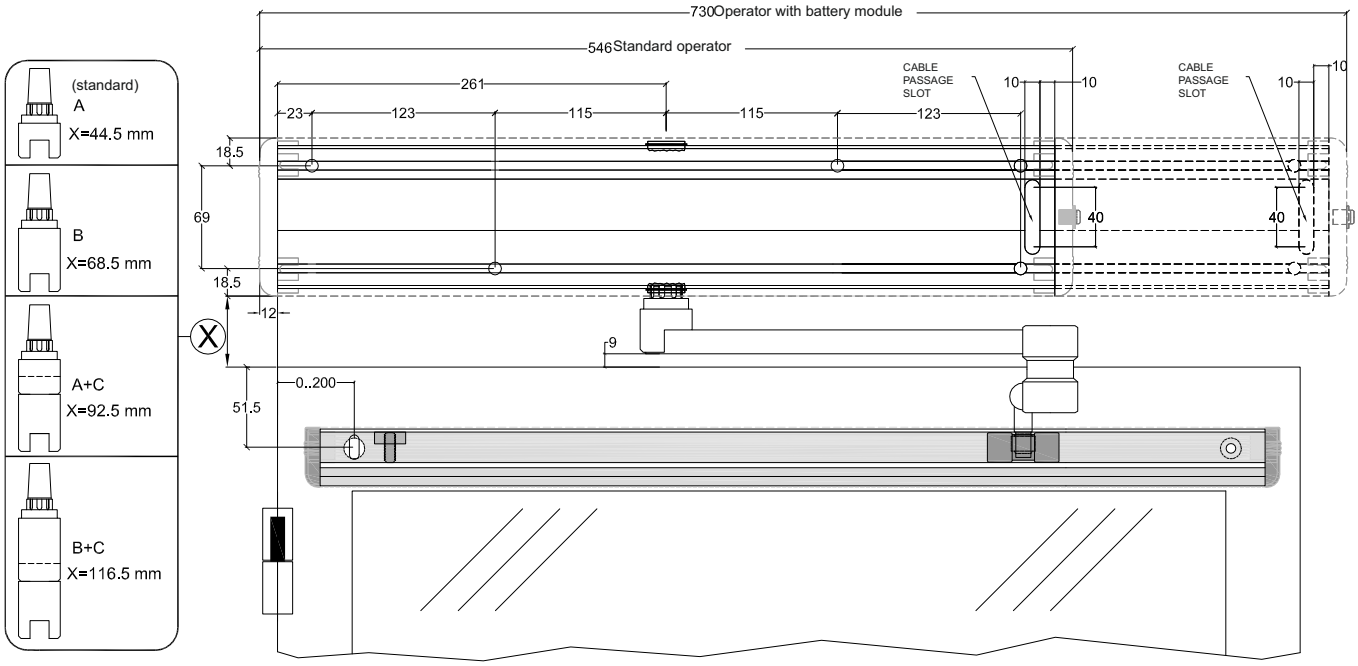


Chart - Neptis LET/LET-B

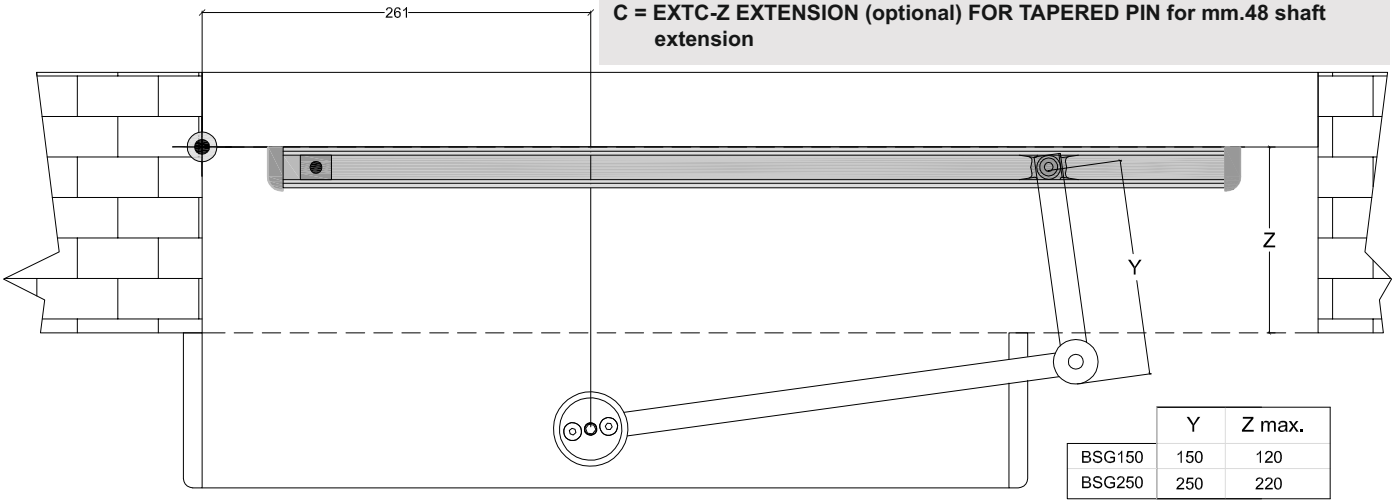


5.3) ASSEMBLY OF THE OPERATOR ON THE LINTEL FROM THE HINGE SIDE
BSG 150/250 ELBOW ARM
For doors that open inwards (seen from the operator side)



A = STANDARD TAPERED PIN
If it is necessary to increase the distance between the operator and the arm (dimension X), replace the standard tapered pin with the following optional extensions:

B = EXTB-Z TAPERED PIN (optional) for mm.24 shaft extension
C = EXTC-Z EXTENSION (optional) FOR TAPERED PIN for mm.48 shaft extension



	Y	Z max.
BSG150	150	120
BSG250	250	220

For this application, please consider that the gearmotor must be on the hinged side of the door for a correct movement direction when opening.

Usable leaf length and weight

Usable leaf length and weight with different fastening dimensions
Assembly drawings available upon request

UNUSABLE leaf length and weight

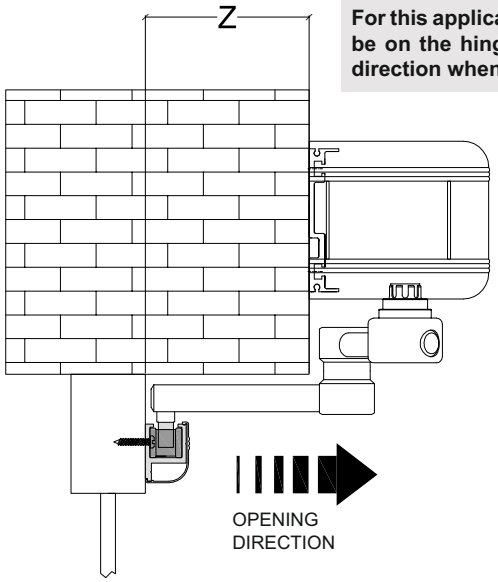


Chart - Neptis SLT/SLT-B SMT/SMT-B

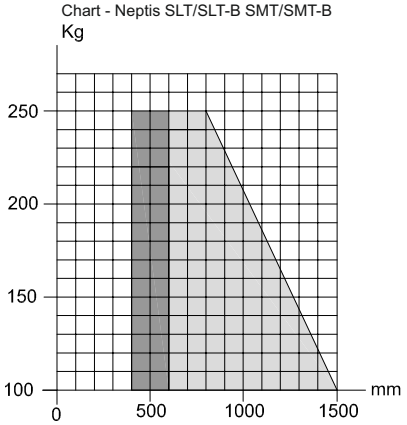
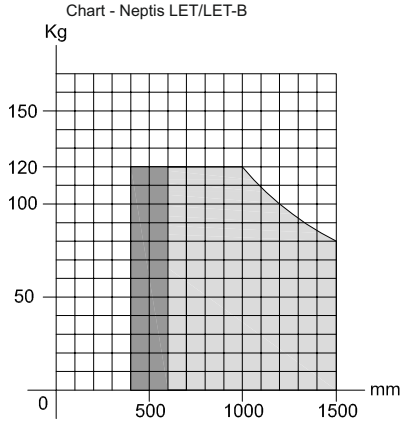
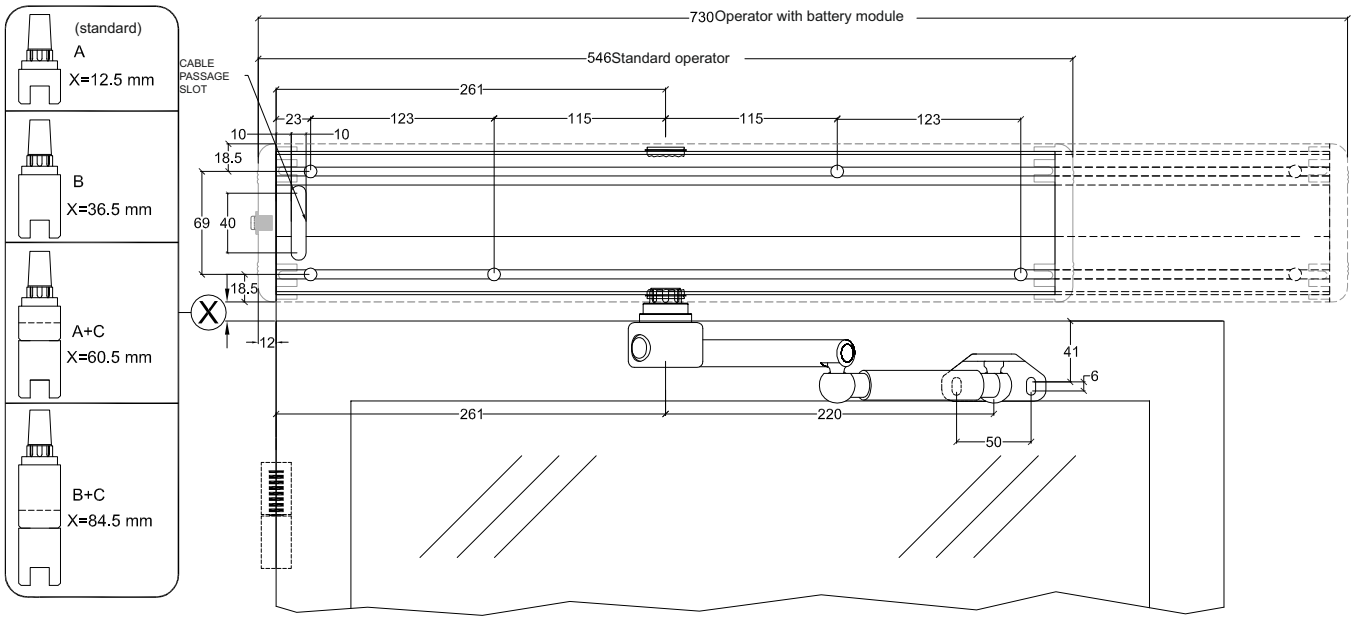
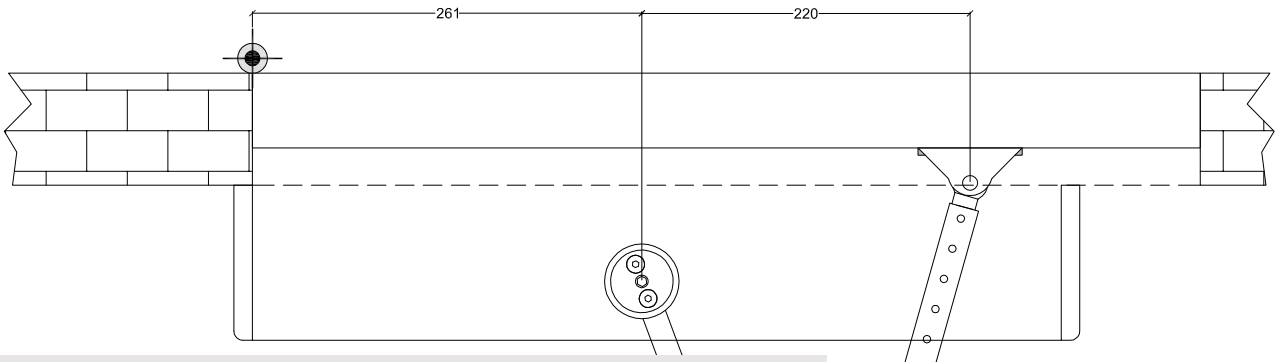


Chart - Neptis LET/LET-B



5.4) ASSEMBLY OF THE OPERATOR ON THE LINTEL FROM THE SIDE OPPOSITE OF THE HINGE
BSS2 ARTICULATED PUSH ARM
For doors that open outwards (seen from the operator side)





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If it is necessary to increase the distance between the operator and the arm (dimension X), replace the standard tapered pin with the following optional extensions:
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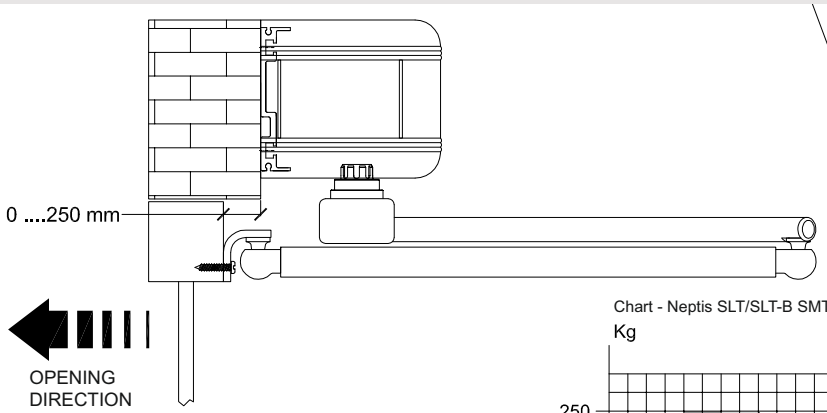


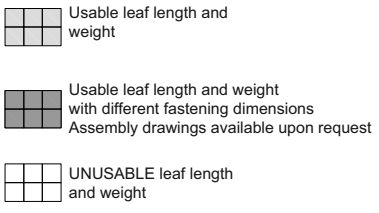

Usable leaf length and weight
Usable leaf length and weight with different fastening dimensions Assembly drawings available upon request
UNUSABLE leaf length and weight

Chart - Neptis SLT/SLT-B SMT/SMT-B

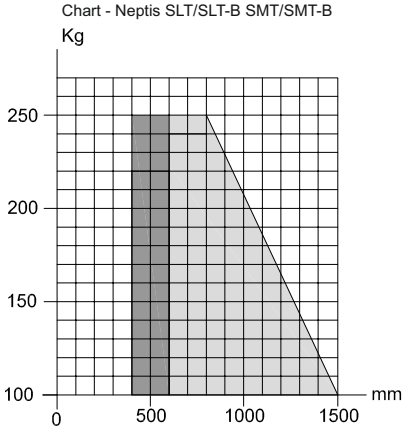
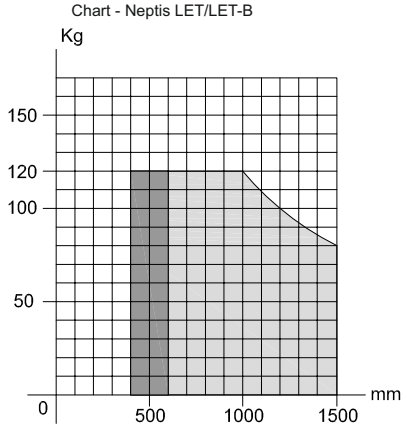
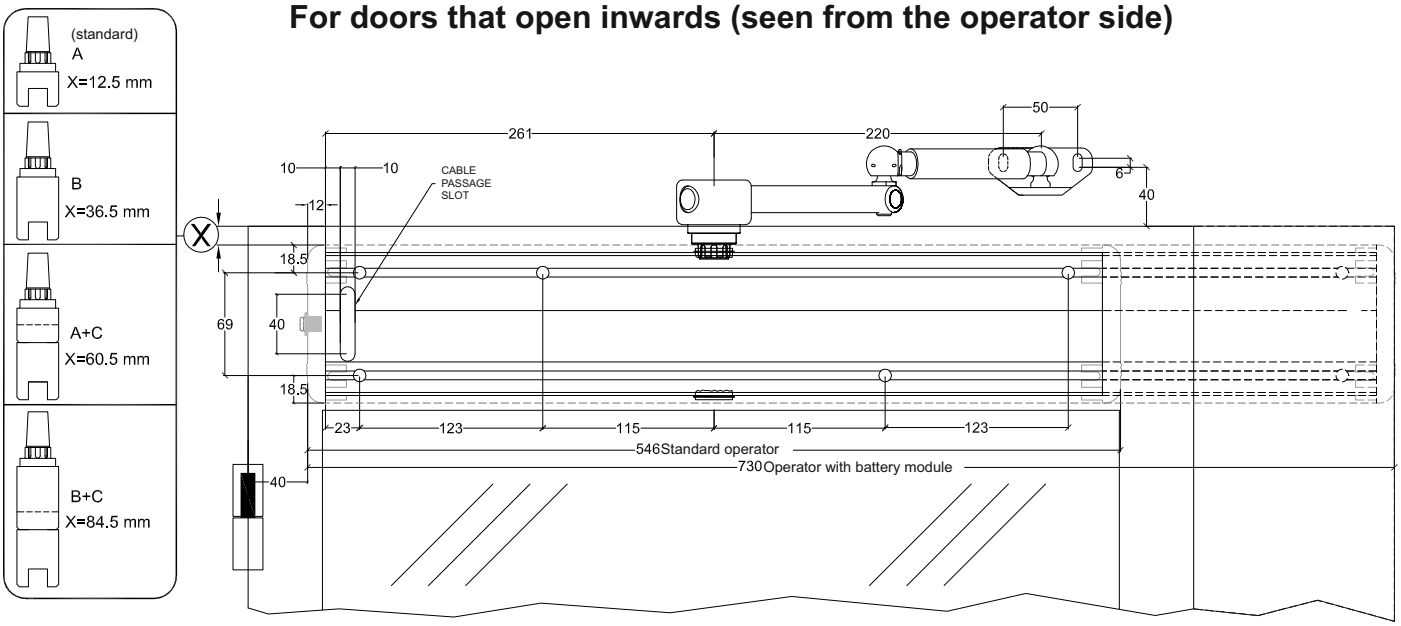


Chart - Neptis LET/LET-B



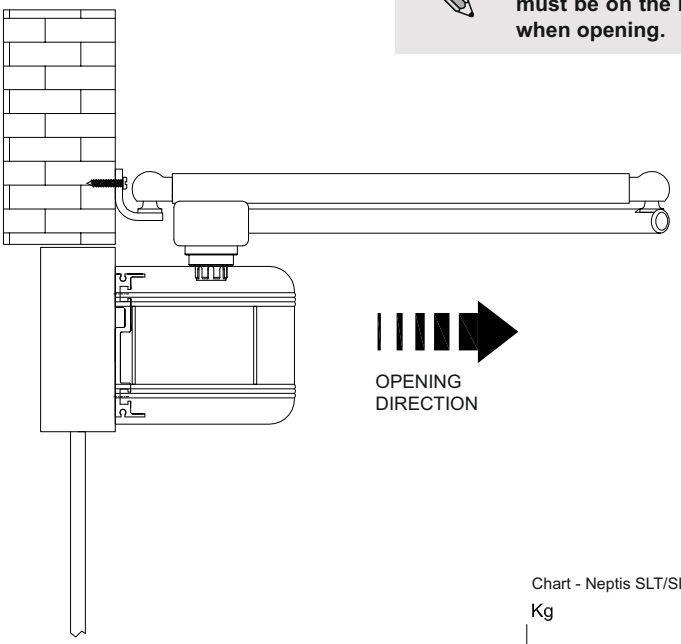
For this application, please consider that the PWN-T wiring card board must be on the hinged side of the door for a correct movement direction when opening.

5.5) ASSEMBLY OF THE OPERATOR ON THE LEAF FROM THE HINGE SIDE
BSS2 ARTICULATED PUSH ARM
For doors that open inwards (seen from the operator side)



A = STANDARD TAPERED PIN
If it is necessary to increase the distance between the operator and the arm (dimension X), replace the standard tapered pin with the following optional extensions:
B = EXTB-Z TAPERED PIN (optional) for mm.24 shaft extension
C = EXTC-Z EXTENSION (optional) FOR TAPERED PIN for mm.48 shaft extension

For this application, please consider that the PWN-T wiring card board must be on the hinged side of the door for a correct movement direction when opening.



OPENING DIRECTION

Usable leaf length and weight

UNUSABLE leaf length and weight

Chart - Neptis SLT/SLT-B SMT/SMT-B

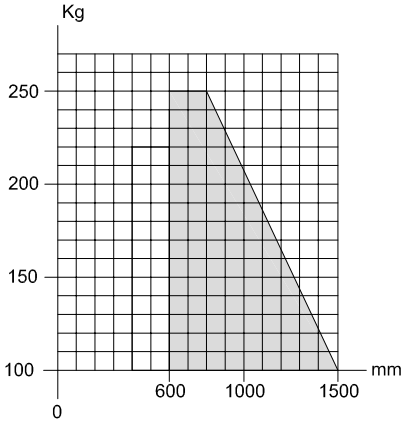
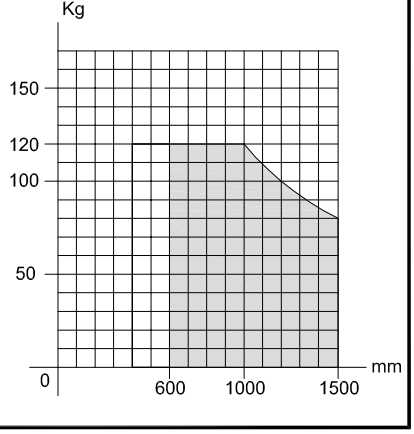


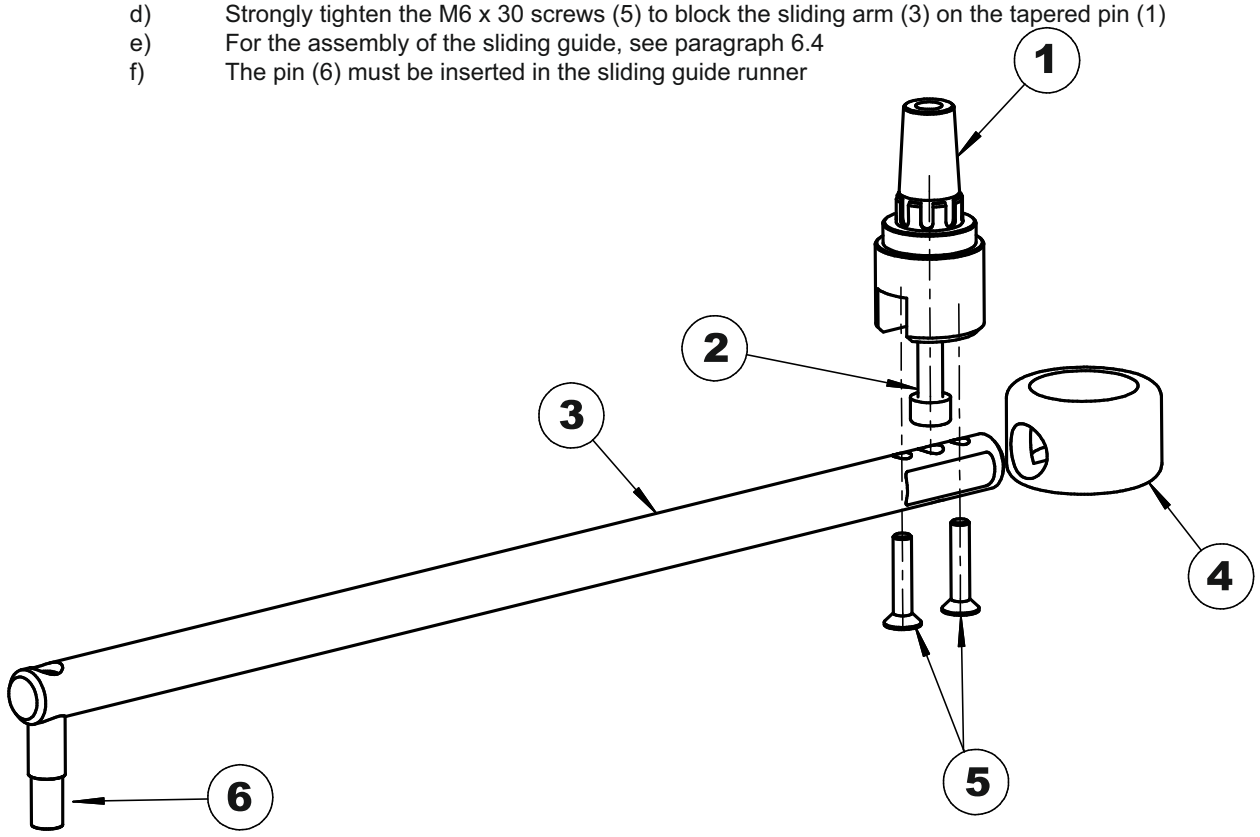
Chart - Neptis LET/LET-B



6) MOVEMENT TRANSMISSION ARMS

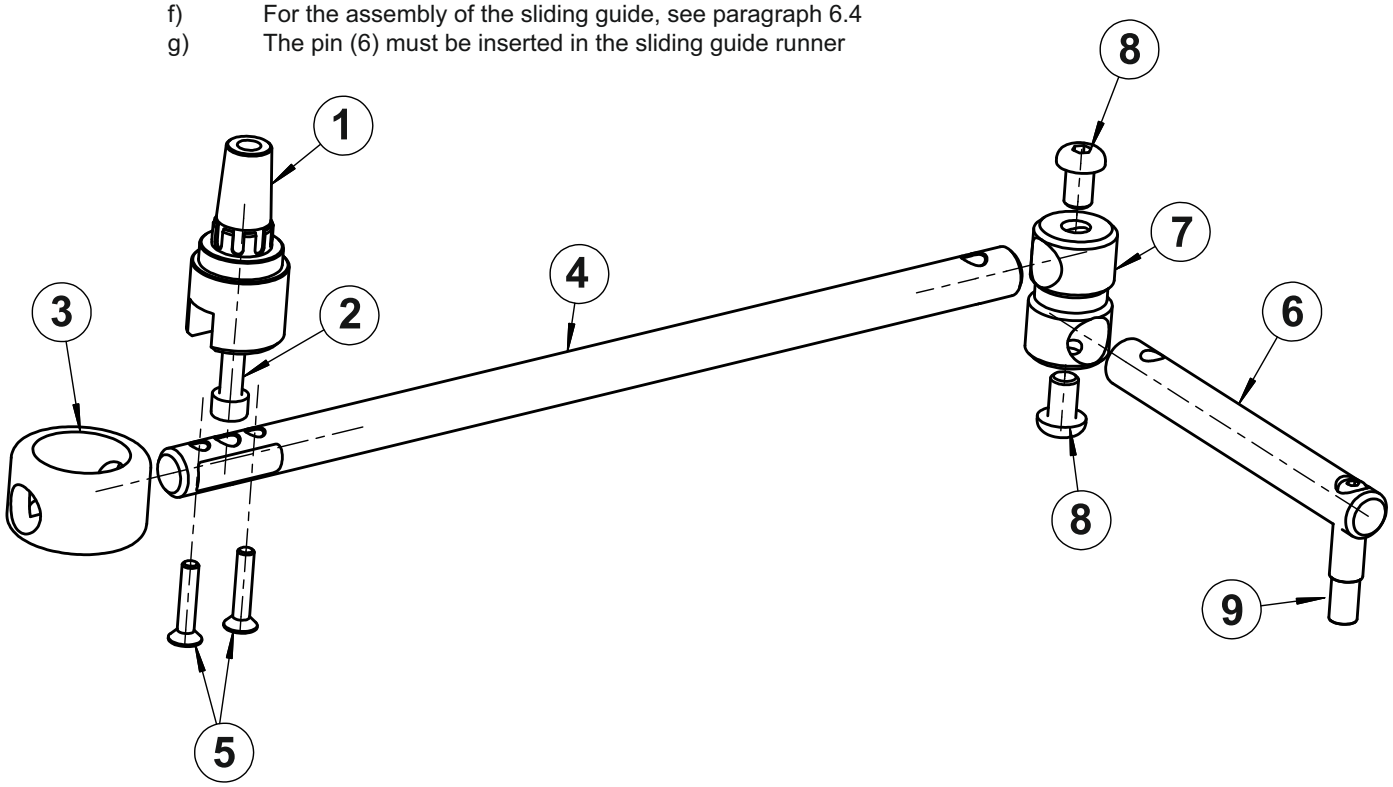
6.1) BDT2 SLIDE PULL ARM

a) Insert the M8 x 70 screw (2) in the tapered pin (1)
b) Insert the sliding arm (3) in the closed shell (4)
c) Insert the tapered pin (1) above the sliding arm (3), through the closed shell (4)
d) Strongly tighten the M6 x 30 screws (5) to block the sliding arm (3) on the tapered pin (1)
e) For the assembly of the sliding guide, see paragraph 6.4
f) The pin (6) must be inserted in the sliding guide runner



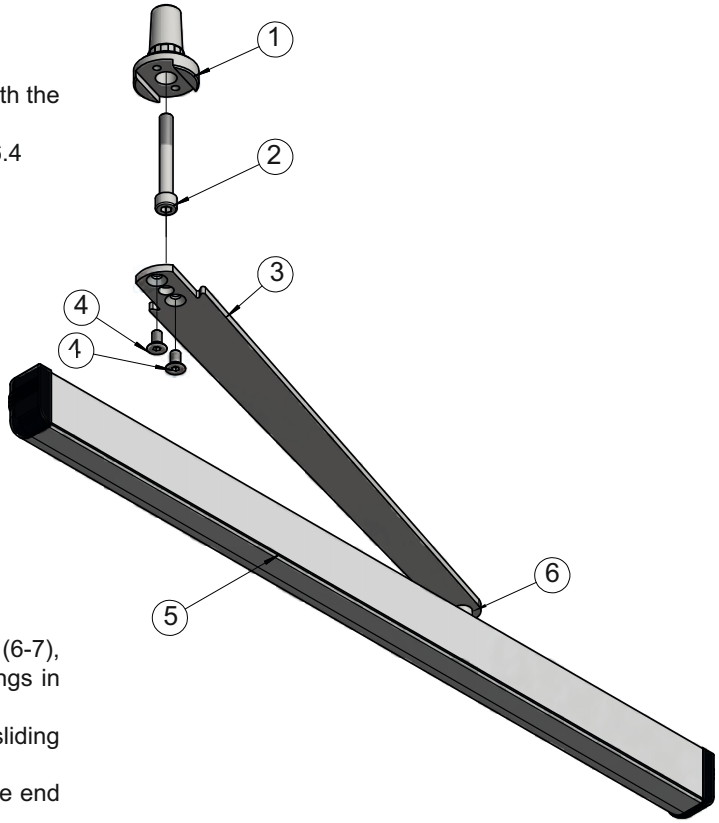
6.2) BSG 150/ BSG 250 ELBOW SLIDING ARM

a) Insert the M8 x 70 screw (2) in the tapered pin (1)
b) Insert the long rod of the arm (4) in the closed shell (3)
c) Insert the tapered pin (1) above the long rod of the arm (4), through the closed shell (3)
d) Strongly tighten the screws M6 x 30 (5) to block the long rod of the arm (4) on the tapered pin (1)
e) Insert the rods, long (4) and short (6) in the bush (7) and fasten them with the M10 x 6 screws (8)
f) For the assembly of the sliding guide, see paragraph 6.4
g) The pin (6) must be inserted in the sliding guide runner



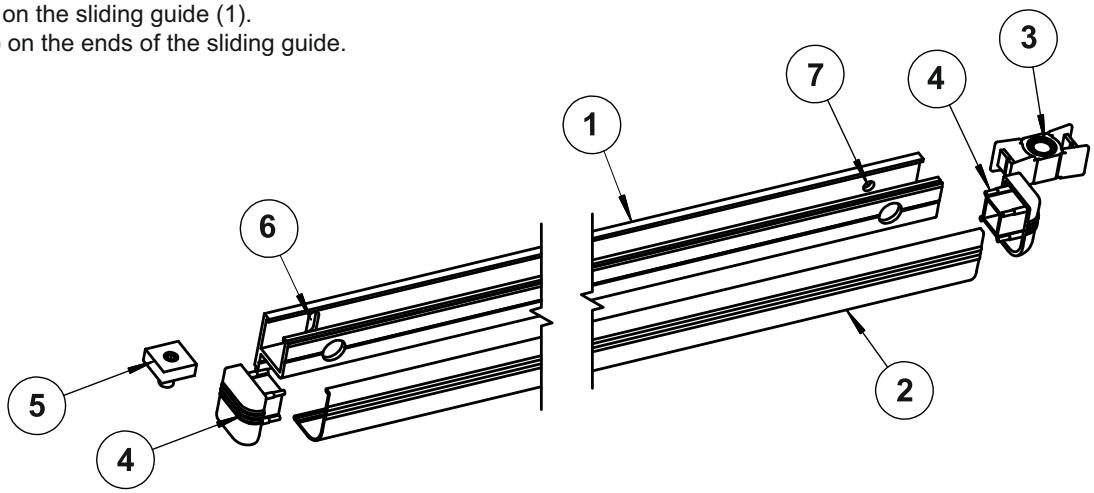
6.3) BDT2R55 LOWERED SLIDE PULL ARM

a) Insert the M8 x 60 screw (2) in the tapered pin (1)
b) Insert the sliding arm (3) in the tapered pin (1) and fix it with the M6 x 12 screws (4)
c) For the assembly of the sliding guide (5), see paragraph 6.4
d) The pin (6) must be inserted in the sliding guide runner



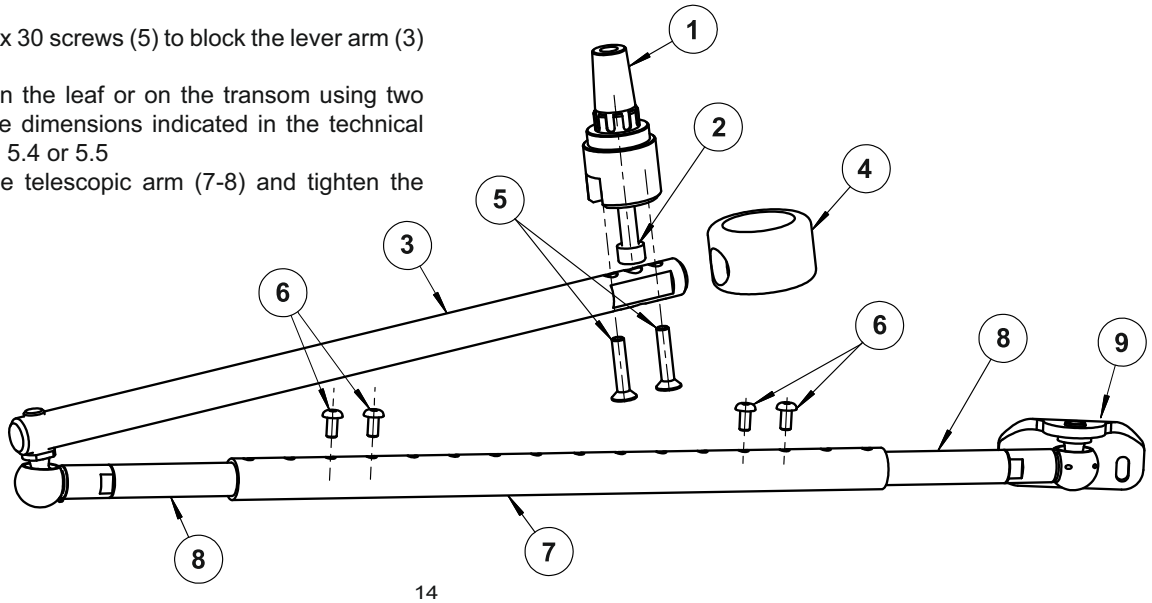
6.4) SLIDING GUIDE FOR PULL ARM

a) Fix the sliding guide (1) on the leaf through the holes (6-7), following the dimensions indicated in the technical drawings in paragraphs 5.1, 5.2, 5.3.
b) Insert the runner (3) for the pull arm tapered pin inside the sliding guide.
c) Insert the striker (5) inside the sliding guide and fix it in the end of stroke opening position using the dowel.
d) Position the cover casing (2) on the sliding guide (1).
e) Insert the two side panels (4) on the ends of the sliding guide.



6.5) BSS2 ARTICULATED PUSH ARM

a) Insert the M8 x 70 screw (2) in the tapered pin (1)
b) Insert the lever arm (3) in the closed shell (4)
c) Insert the tapered pin (1) above the lever arm (3) through the closed shell (4)
d) Strongly tighten the M6 x 30 screws (5) to block the lever arm (3) on the tapered pin (1)
e) Fix the arm plate (9) on the leaf or on the transom using two screws according to the dimensions indicated in the technical drawings in paragraphs 5.4 or 5.5
f) Adjust the length of the telescopic arm (7-8) and tighten the screws (6)



6.6) EXTB-Z TAPERED PIN

Use the EXTB-Z tapered pin if a larger distance is required between the operator and the arm in comparison to the standard tapered pin.
For the assembly dimensions follow the technical drawings in par. 5.
For the assembly, follow the steps shown in the following figures:
insert the M8 X 90 screw in the tapered pin (A), insert the arm in the closed shell (B), insert the tapered pin in the arm (C) and tighten the two M6 X 20 screws (D).

A B C D

6.7) EXTENSION FOR EXTC-Z TAPERED PIN

Use the EXTC-Z extension if a larger distance is required between the operator and the arm in comparison to what can be obtained using the standard and EXTB-Z tapered pins.
Couple the EXTC-Z extension to the standard or EXTB-Z tapered pin (depending on the distance to be reached, see the technical drawings in par. 5).
For the assembly, follow the steps shown in the following figures:
couple the EXTC-Z extension with the tapered pin and insert the central screw (E), tighten the two M6 X 65 side screws (F), insert the extension in the arm and tighten the two M6 X 20 screws (G).

E F G

7) PREPARING AND ASSEMBLING THE OPERATOR

7.1) Required tools:

Tape measure, drill, level, thin flat-head screwdriver, medium-sized flat-head screwdriver, large cross-head screwdriver, Allen wrenches with handle (sizes 2.5 – 4 - 5 – 6), flat-head wrench 10.

7.2) Operator control

Remove the operator from its packaging and remove the screws retaining the cover.

Remove the aluminium cover from its seat, pulling it firmly upwards and without applying pressure on the sides, if possible.

The Neptis operator foresees the possibility of connecting the arm on both sides of the mechanical body and therefore makes it possible to select the opening movement direction.
The label located on the mechanical body at the shaft outlet indicates the opening direction.

Identify the correct side for connecting the pin, based on the type of arm used and the type of operator assembly. Carefully review the technical drawings in paragraph 5.

⚠ (only for Neptis operators LET, LET/B, SLT, SLT/B)
Do not remove the spring preload locking screw!
Operators with a built-in spring have a spring preload locking screw that keeps the pulley locked, making it possible for the screw to remain in its preloaded position (factory setting).

Removing the spring preload locking screw would make the pulley and gears move inside the operator, representing a hazard to fingers or other body pars near the moving components.

☞
The spring preload locking screw must **not** be removed before completing installation and connecting the arm to the leaf and the operator shaft output to prevent the spring from being released. Follow the instructions to be certain to correctly perform all the assembly phases.

7.3) Operator assembly

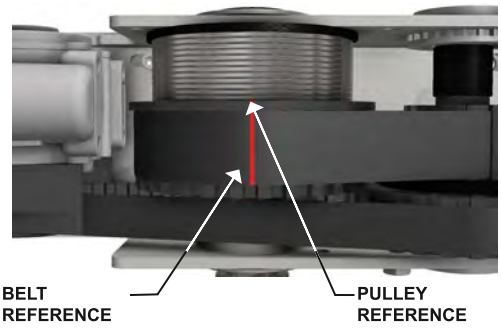
Based on the arm to be used and the operator fixing position, refer to the relative assembly table (par. 5.1 to 5.5), which indicates where the holes must be made for the assembly of the operator and the drive arm.
For arm assembly refer to paragraph 6.

☞
To fix the devices use the screws and anchors suitable for the type of support.

After fixing the operator and arm, follow the next steps for connecting the arm pin to the shaft output of the Neptis operator.

7.4) Selecting the spring load (only for Neptis operators LET, LET/B, SLT, SLT/B)

The closing spring is preloaded in the factory to a standard value, which is indicated by the alignment of the red line on the belt with the red mark on the pulley.



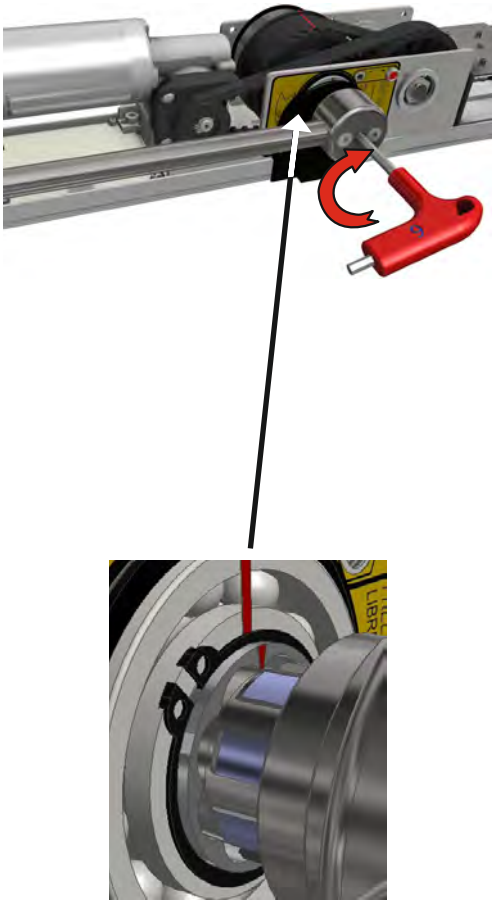
Select the spring reclosing force according to the following rule:
- Connect the arm to the operator output shaft with the leaf completely open to obtain a low reclosing force (minimum spring load).
- Connect the arm to the operator output shaft with the leaf in an intermediate position to obtain a medium reclosing force (medium spring load).
- Connect the arm to the operator output shaft with the leaf completely closed to obtain a high reclosing force (maximum spring load).

7.5) Inserting the arm's tapered pin

Make sure that the plastic plate is inserted in the operator's mechanical body where the output shaft is located, before inserting the arm's tapered pin.

There are wedges in the arm's tapered pin that must be perfectly matched with those in the operator output shaft. These serve the purpose of making sure that the arm's tapered pin always moves together with the operator's motion transmission shaft.

Insert the arm's tapered pin in the operator output shaft making sure that the wedges in the two parts are correctly matched and then firmly tighten the screw fixing the arm's tapered pin.

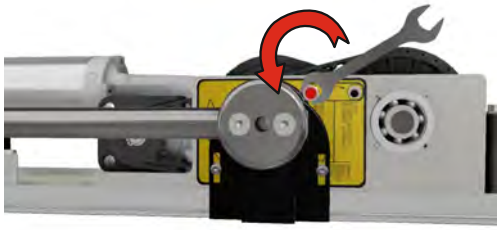


only for Neptis operators without a spring SMT, SMT-B
If leaf movement is regular along the entire stroke, both when opening as well as when closing, continue with the electrical connections as described in the electronic part section of the paragraph “Electric connections”.
only for Neptis operators LET, LET/B, SLT, SLT/B
Follow the steps in the following chapter.

7.6) Releasing the spring (only for Neptis operators LET, LET/B, SLT, SLT/B)

During this operation, the operator and arm pulleys can move. Keep fingers and body parts away from the moving components during this operation and keep the leaf blocked manually.

Move the spring locking screw from the locked position to the free position.
The door leaf is free to close due to the force of the spring.
Make sure that the door closes completely even when open only a few degrees.
If leaf movement is regular along the entire stroke, both when opening as well as when closing, continue with the electrical connections as described in the electronic part section of the paragraph “Electric connections”.
If the spring load must be increased or reduced, remove the arm from the operator. This operation is described in the following paragraph.

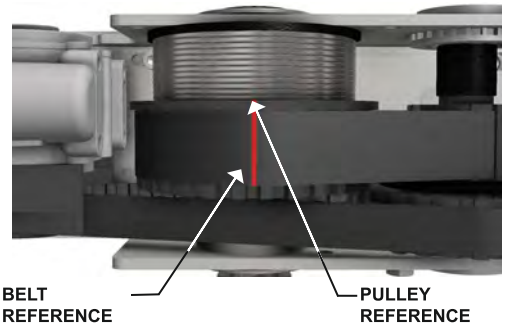


8) REMOVING THE ARM (only for Neptis operators LET, LET/B, SLT, SLT/B)

Carefully follow the steps described below to remove the arm. In particular, unscrew the screw fixing the tapered pin only after the spring has been locked.
The removal of the tapered pin's fastening screw can cause the movement of pulleys and gears present in the automation if the closing spring has not been locked in advance.
Keep your fingers and other parts of your body clear from the moving components during this operation.

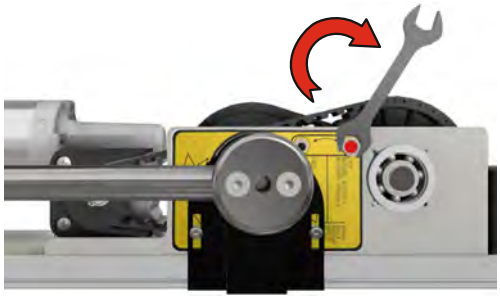
REPOSITIONING TO STANDARD PRELOAD

Before removing the arm, re-establish the standard spring load value (factory setting). To do this, manually move the leaf until the red line on the belt is aligned with the red mark on the pulley.



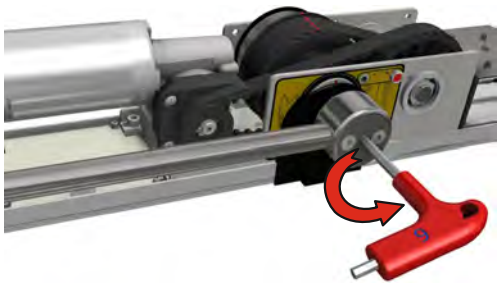
Spring locking

Move the spring preload locking screw from the free position to the locked position, making sure that the screw is inserted in the pulley.



REMOVING THE TAPERED PIN

Insert the Allen wrench (6mm.) inside the hole of the tapered pin without removing the arm rod.
Unscrew the arm's fastening screw, applying greater force in the final phase in order to remove the tapered pin.



Repeat the steps described in par. 7.4, 7.5 and 7.6 to select the spring reclosure force and to connect the arm.

9) NEPTIS OPERATORS WITH A BATTERY (models SLT-B, LET/B, SMT/B)

This type of operator has a built in battery module, N-BAT, which allows the automation to function even in the case of a power failure.

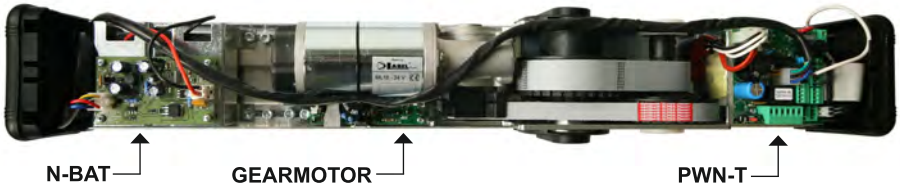
Location of the N-BAT module inside the Neptis operator

The location of the N-BAT module inside the operator depends on the type of arm in use.
When using the BDT2, BDT2R55 slide pull arm and the BSG elbow arm, the N-BAT module must be next to the PWN power supply unit (FIG.1).

FIG.1

When using the articulated BSS2 pushing arm the N-BAT module must be next to the motor reducer (FIG. 2).

FIG.2



Label provides as standard the Neptis operator with N-BAT module installed on the gearmotor side, and as a consequence set up for push opening with BSS2 arm (FIG.3).

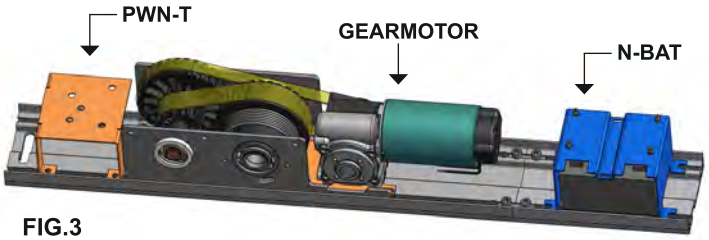


FIG.3

For pull opening you will have to use the BDT2, BDT2RR55 or BSG arm and move the N-BAT module to the opposite side, performing the following operations:

a) Disconnect the connection cable between the J1 connector of the N-BAT module and the J6 connector of the PWN-T power supply, then cut the straps holding it fastened to the mechanical body of the operator;
b) Remove the plastic side panels from the operator by unscrewing the relevant screws;
c) Detach the N-BAT module from the Neptis operators, unscrewing the M6X8 screws fixing the coupling plates (P) between the two parts;
d) Place the N-BAT module on the side of the PWN-T power supply unit, inserting the coupling plates (P) into the special grooves and screwing in the M6x8 screws (FIG.4);

   The operator is now ready to be used with the pulling arm (FIG.5).

e) Reinstall the plastic side panels on the sides of the operator

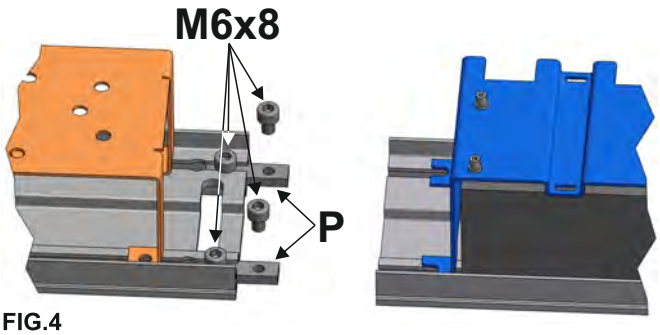


FIG.4

NOTE: for information about the operator installation dimensions, please refer to the technical drawings in paragraph 5, taking into account that the battery module is always on the side opposite to the door pivots.
The operator's casing is equipped with a double slot, so that it can be installed on both sides, depending on the position of the N-BAT module inside the operator.
For the electrical connection and operation, see the “N-BAT BATTERY MODULE” paragraph in the ELECTRONIC PART” section

FIG.5

10) HOW TO RESET THE SPRING PRELOAD (only for models SLT, SLT-B, LET, LET-B)

Read this paragraph only if the reclosing spring must be unloaded due to the failure to comply with the correct installation procedures.

The automatism is supplied with the reclosing spring preloaded to a standard value, which is indicated by the alignment of the red mark on the belt with the red mark on the pulley (see figure to the side).
If during installation the arm is accidentally disconnected without first returning and blocking the spring in the standard position with the locking screw, the spring will be loaded below its standard value.
To return it to the correct position, carry out the following steps carefully:

a) Completely disconnect the arm from the outlet pin, if it is still inserted.

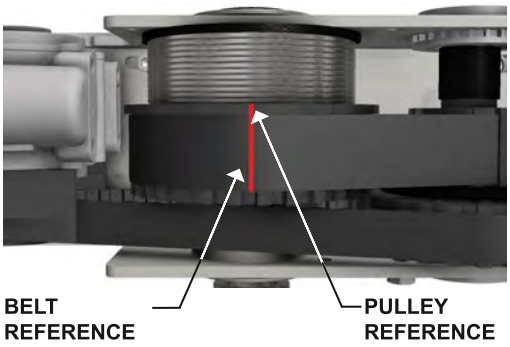
b) Make sure that the manual program selector on the side of the operator is located in the central “0” position.

c) Connect the power supply (see the ELECTRIC CONNECTIONS paragraph)

d) Delete the set-up if it was already stored in the operator control unit (see “DELETING A PREVIOUS INITIAL SET-UP”)

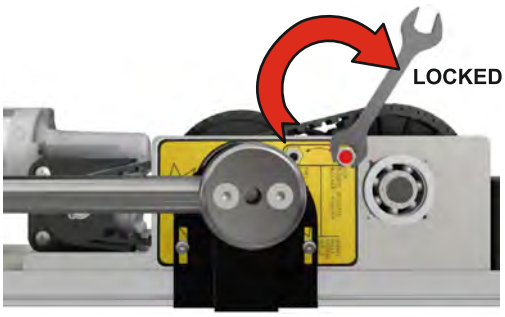
e) Press and hold down the PS1 button (START) on the PWN-T card, the control unit will beep 5 times and start the spring loading manoeuvre.

Return the spring load to the standard value indicated by the alignment of the red mark on the belt with the red mark on the pulley (see figure to the side). Once the position is reached, release the PS1 button.



If the spring goes beyond the level indicated by the red line during the operation, it can be slowly unloaded by moving the manual program selector to position I .
In position II , the spring is quickly rewound!
Keep fingers and body parts away from moving components.

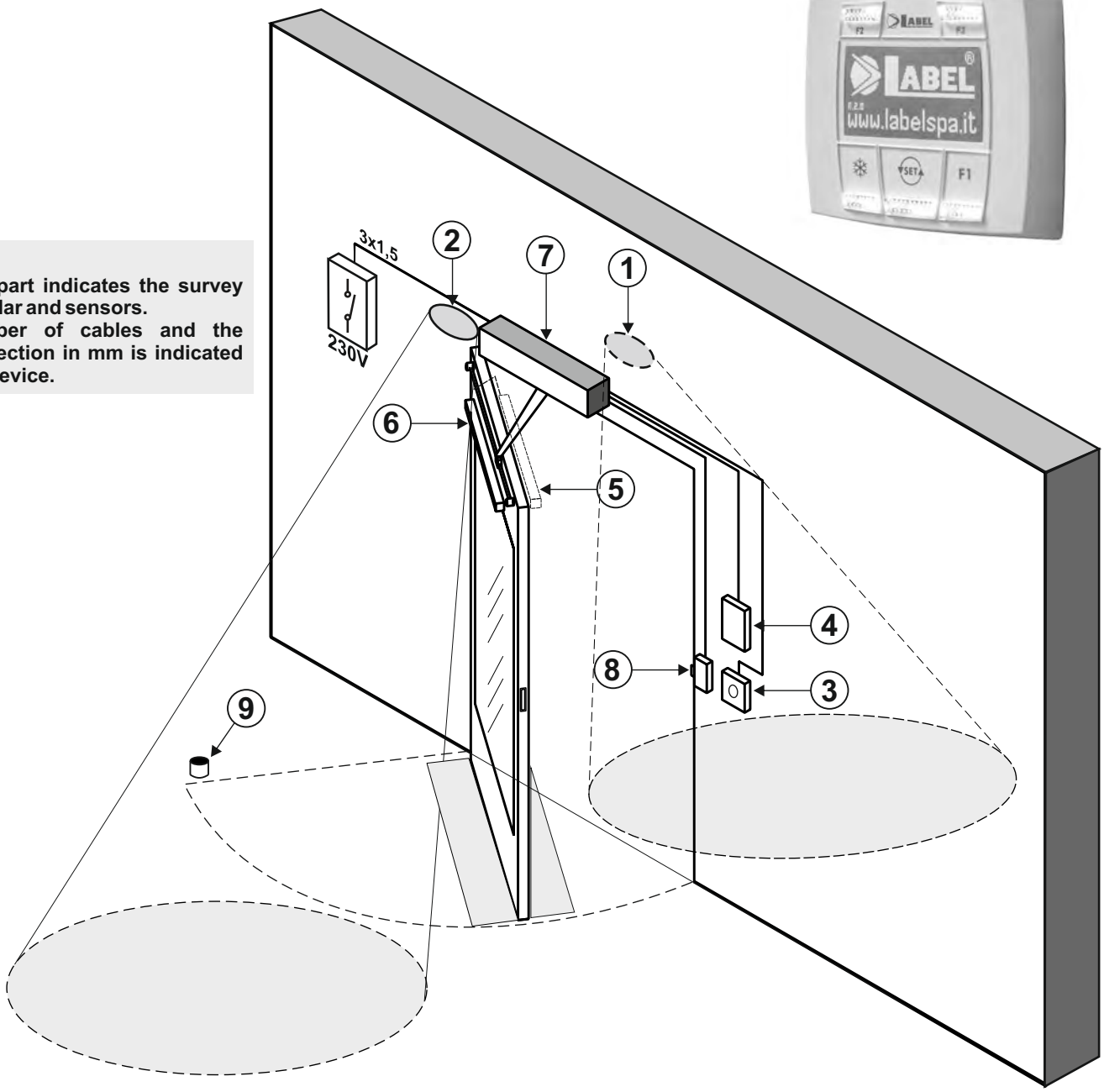
f) Move the locking screw from the free position to the locked position, paying attention that the screw is inserted in the pulley.
g) After this operation, the initial set-up must be repeated (see the initial SET-UP paragraph).



ELECTRONIC SECTION

11) ELECTRIC ARRANGEMENTS

NOTE:
The grey part indicates the survey zone of radar and sensors.
The number of cables and the relevant section in mm is indicated for every device.

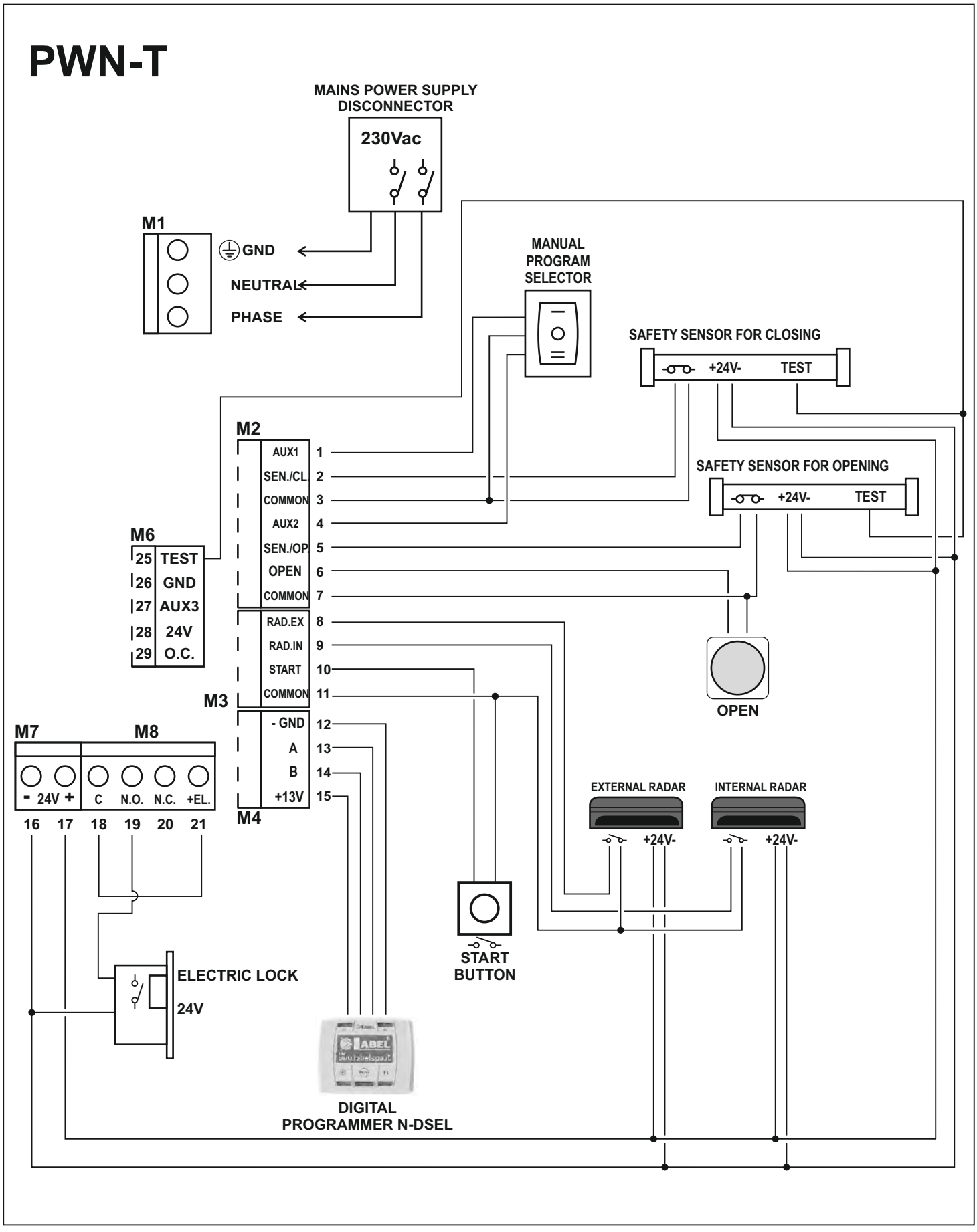


① EXTERNAL RADAR (4x0,5mm)
② INTERNAL RADAR (4x0,5mm)
③ OPENING CONTROL (2x0,5mm)
④ PROGRAM SELECTOR (4x0,5mm)
⑤ SAFETY SENSOR FOR CLOSING (6x0,5mm)
⑥ SAFETY SENSOR FOR OPENING(6x0,5mm)
⑦ NEPTIS OPERATOR (mains power supply 3x1,5mm)
⑧ ELECTRIC LOCK (2x1mm)
⑨ FLOOR STOP

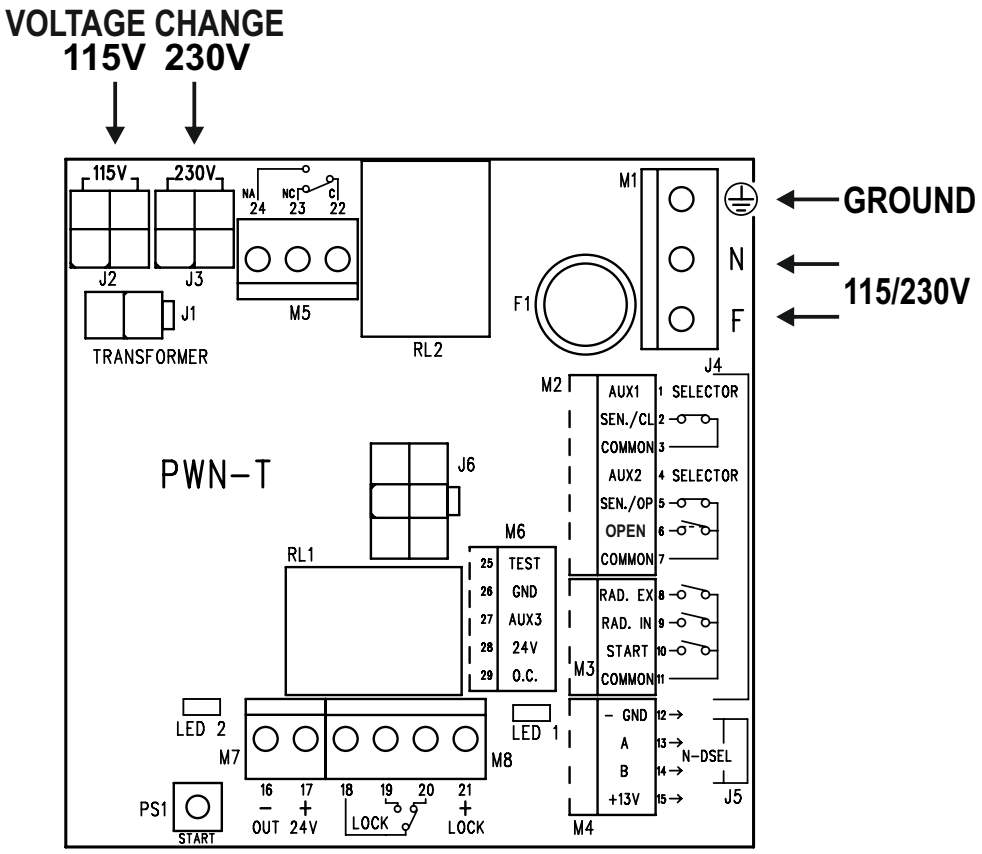
- The power supply line must be protected against short circuit and dispersion to ground.
- On the power supply mains, provide for an omni-polar switch/selector with contact opening distance of at least of 3 mm.
- Use self-extinguishing cables for electric connections.

- Separate the mains power supply line from the very-low voltage line relative to control and safety accessories.
- On the plastic side panels of the Neptis operator there are the holes that must be broken open, through which the electric cables must be inserted. The installer must made the power supply cable stable inside the operator and, particularly, limit the peeling of cable primary sheath so that the air and surface distances are not reduced if a connector detaches from the terminal.
- If operator is installed on a door leaf, perform electric connection by a branching box with suitable flexible unions and pipes, available on the market.

12) ELECTRIC CONNECTIONS



13) POWER SUPPLY MODULE AND PWN-T ELECTRIC WIRING



☞

- In case of 230Vac mains voltage, put the 4-pole connector of the transformer primary in the J3 connector (230V) of PWN-T board (factory setting).
- In case of 115Vac mains power supply, put the 4-pole connector of the transformer primary in the J2 (115V) connector of PWN-T card.

TERMINAL BOARD M1

230 Vac power supply: phase to terminal F, neutral to terminal N, ground connection with terminal ground symbol.

- Ground the operator by connecting the ground cable from the line to the Faston connector on the plate the PWN-T board is fastened to. A cable, connected with ground terminal of PWN-T board, is connected with the second faston.
- The electric line is protected by 2A fuse F1.

TERMINAL BOARD M2

Terminals 1-3-4
MANUAL PROGRAM SELECTOR, located on operator side panel (factory wiring):
closed contact on position I to terminal 1 (AUX1);
central contact to terminal 3 (common);
closed contact on position II to terminal 4 (AUX2);

- For more information on the operating modes of manual program selector, refer to "Program selectors" paragraph.

Terminals 2-3
Input of SAFETY SENSOR FOR CLOSING, N.C. contact.
The operation of safety sensor for closing must be enabled by N-DSEL digital programmer (function F18 ON).
The activation during closing provokes the door reopening.

Terminals 5-7
Input of SAFETY SENSOR FOR OPENING, N.C. contact.
The operation of safety sensor for opening must be enabled by N-DSEL digital programmer (function F19 ON).
The activation during opening stops the door leaf movement; when the sensor deactivates, the opening restarts at low speed.

Terminals 6-7
OPEN input.
Input contact logic state can be selected as N.O. (default condition) or N.C. by N-DSEL digital programmer (function 30).
The activation allows opening the door of all operating programs.

TERMINAL BOARD M3

Terminals 8-11
EXTERNAL RADAR input, N.O. contact.
It controls the door opening.
It is not active when the program selector is on “Exit only” and “Night lock”.

Terminals 9-11
INTERNAL RADAR input, N.O. contact.
It controls the door opening.
It is not active when the program selector is on “Entrance only” and “Night lock”.

Terminals 10-11
START input, N.O. contact.
It controls the door opening.
It is not active when the program selector is on “Night lock”.

TERMINAL BOARD M4

Connection of N-DSEL digital programmer.
Terminal 12 = - GND (power supply negative);
Terminal 13 = signal line A;
Terminal 14 = signal line B;
Terminal 15 = + 13V (power supply positive).

TERMINAL BOARD M6

Terminal 25
TEST output for safety sensors set for monitoring.
- For more information, refer to "Safety sensors" paragraph.

Terminals 26-27
AUX 3 input, N.O. contact.
It is enabled in applications with interlock (function F26 = ON and F29 = ON).
It controls the door opening in all operating programs.
- For more information, refer to "Interlock system" paragraph.

Terminals 28-29
Open Collector output of door status, it activates with open door and deactivates with closed door.
Connect a max. 100mA charge between 29 (O.C.) and 28 (positive + 24V) terminals.
- In Interlock function (F26=ON), terminal 29 is used for connection of interlock operation; for more information, refer to “Interlock system” paragraph.

TERMINAL BOARD M7

Terminals 16 (negative) - 17 (positive)
24Vdc output, max. 20W, for the power supply of control and safety sensors.
Led 2 ON indicates the proper operation of output.

TERMINAL BOARD M8

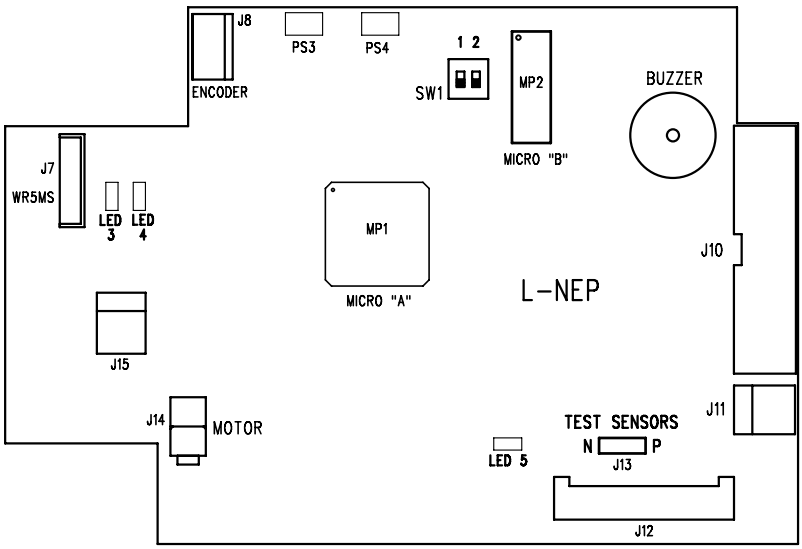
Terminals 18-19-20
Free contact of relay RL1 for electric lock connection; (18 = Common, 19 = N.O., 20 = N.C.).

Terminals 16 (negative) - 21 (positive)
24Vdc output for electric magnet or electric lock power supply.
- For more information, refer to "Applications with electric lock" paragraph.

CONNECTORS

Connector J1 = transformer secondary (factory wiring).
Connector J2 = transformer primary (for 115V mains voltages).
Connector J3 = transformer primary (for 230V mains voltages, factory wiring).
Connector J4 = wiring of electric signals to connector J10 of L-NEP logic board.
Connector J5 = wiring of motor power supply to connector J11 of L-NEP logic board.
Led 1 ON indicates the presence of output voltage.
Connector J6 = connection with N-BAT battery module (see “N-BAT battery module”)

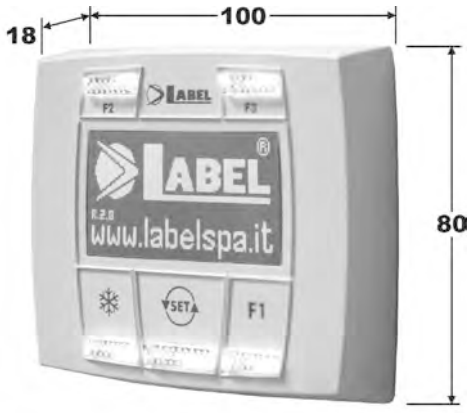
14) L-NEP LOGIC BOARD



PART DESCRIPTION

Connector J7 = WR5MS wiring for Master Slave communication in two-leaf swing door.
For more information, refer to "Two-leaf swing door" paragraph.
Connector J8 = encoder wiring insertion.
Connector J10 = wiring of electric signals from connector J4 of PWN-T module.
Connector J11 = wiring of motor power supply from connector J5 of PWN-T module.
Connector J12 = insertion for EN/RF1 radio receiver.
For more information, refer to "EN/RF1 radio receiver" paragraph.
Jumper J13 = it selects the logic status of safety sensor monitoring signal.
For more information, refer to "Safety sensors" paragraph.
Connector J14 = motor wiring insertion.
Jumper J15 = it selects two speed levels for door closing without power supply.
For models with LET and SLT closing spring only.
Jumper J15 activated = low speed.
Jumper J15 deactivated = high speed.
Led 3 – Led 4 = display of encoder signals.
Led 5 = display of MP1 microcontroller operation (micro A):
led on = correct operation;
led off or slowly flashing = fault on logic board.
Buzzer = warning buzzer.
MP1 = microcontroller "A"
MP2 = microcontroller "B"
SW1 = dip-switch for operator type selection:
1 OFF / 2 OFF = single leaf operator or Master operator in double leaf
1 ON / 2 OFF = Slave operator in double leaf

15) N-DSEL DIGITAL PROGRAMMER – SCOPE AND CONNECTIONS

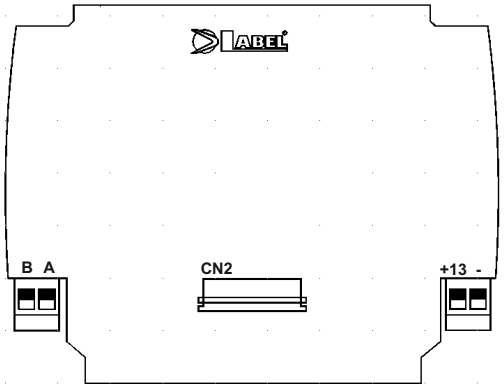


N-DSEL digital programmer is a tool necessary to the installer to configure the operation of the automatic door and perform the set-up of operations, functions and parameters, to perform system diagnostics and have access to events memory containing information on automated device and its operation.
Access to the programming menu is protected by safety technical password so that specialized and authorized personnel only can operate on the automated device.

N-DSEL digital programmer can also be used by the final user, but only for choosing the operating mode of automatic door; the user can also select the preferred language and set up a user password to prevent the use of digital programmer by unauthorized persons.

Connect N-DSEL digital programmer to PWN-T module of Neptis operator by 0.5mm 4-conductor cable.

Terminal +13V = connect to terminal 15 of PWN-T board (+13V);
Terminal - = connect to terminal 12 of PWN-T board (- GND);
Terminal A = connect to terminal 13 of PWN-T board (A);
Terminal B = connect to terminal 14 of PWN-T board (B);



For each subject-matter described in the following paragraphs the use of digital programmer (hereinafter N-DSEL) is explained in the specific case.

16) COMMISSIONING OF AUTOMATED DEVICE (INITIAL SET-UP)

After completing the mechanical installation and performing electric connections, manually shift the door leaf for its entire stroke, to ensure that no friction appears on the movement.
SET-UP operation is compulsory to allow the operator electronic control unit to acquire stroke points.
When the set-up begins, the door must be closed and during the stroke learning cycle, no obstacle shall appear in the leaf movement area.

If Neptis operator controls a single-leaf automatic door, dip 1 and 2 on SW1 dip-switch of L-NEP logic board must be set on OFF.
If two Neptis operators must control a double-leaf automatic door, refer to “Double-leaf swing door” paragraph..

Follow chapter 16.1 only if N-DSEL digital programmer is new and powered for the first time.
Follow chapter 16.2 if digital programmer has already been used before.

16.1) FIRST START OF N-DSEL DIGITAL PROGRAMMER

Power the Neptis operator by mains voltage, the control unit buzzer emits some quick, short beeps.

- Language selection is shown on the display of N-DSEL digital programmer;
- use **F2** and ❄ buttons to move the arrow in correspondence with the language desired.
- Press EXIT (SET) button to exit “Language” section and enter “Serial communication setups” section, as per para. 16.3.

16.2) USE OF N-DSEL DIGITAL PROGRAMMER

Power the Neptis operator by mains voltage, the control unit buzzer emits some quick, short beeps.

The display signals the lack of communication between N-DSEL and operator control units since the serial code of L-NEP logic board is not stored on N-DSEL.

Press (SET) button for about 5 seconds to enter the general programming menu.
- F1 button allows moving forward among menu symbols.
- Select RS485 symbol.
- Give a quick pulse to ENTER ❄ button to enter the “Serial communication setups” section, as per para.16.3.

16.3) SERIAL COMMUNICATION SETUPS

N-DSEL programmer automatically detects the presence of operator electronic control unit (fig. A) and stores the serial code of L-NEP logic board (fig. B).

When acquisition of serial code is completed, the display must show the closed padlock symbol on letter M and open padlock on letter S, for a single leaf door (fig. C),

fig.A

fig.B

fig.C

For a double-leaf swing door, refer to “Double-leaf swing door” paragraph.

Press EXIT (SET) button to exit “Serial communication setups” section and enter the general programming menu.

16.4) INITIAL SET-UP

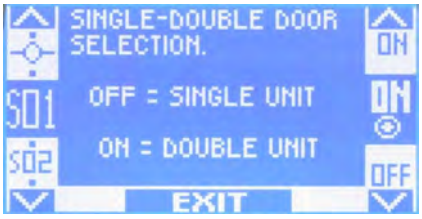
From general programming menu, F1 button allows moving forward among menu symbols.
Select INITIAL SET-UP symbol.

Give a quick pulse to ENTER ❄ button to enter the “Initial setup” section.

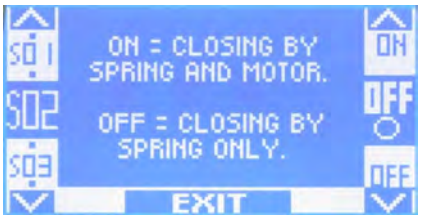
Type the 10-character technical password for access to set-up configuration.
The default technical password supplied by Label to N-DSEL digital programmer is “A-A-A-A-A-A-A-A-A-A”
Press the button in correspondence with letter A, asterisk appears on the first letter case on the display; repeat this operation for all the other characters required.
If the password typed is correct, you enter the section dedicated to set-up configuration;
if the password typed is wrong, you return to general programming menu.

It is recommended to change the default technical password.
Refer to “Password management” paragraph.

In this section, F1 / F3 buttons allows selecting the function ON / OFF status, while ❄ button allows moving to the following function.
Press F2 button to return to previous function.



Select the door type: single leaf OFF, or double leaf ON (in this last case, refer to “Double-leaf swing door” paragraph).



For LET, LET-B, SLT, SLT-B models only.
Select if the closing cycle must only be performed by spring effort (OFF) or if motor must also be enabled (ON) to ensure a higher closing force.

Select ON if an electric lock is present only.

Only if S03 function has been set to ON
If an electronic lock exists, select type:
pulse OFF (electronic lock or electric match) or permanent ON (electric magnet).

Select ON only if a safety sensor has been installed on closing.

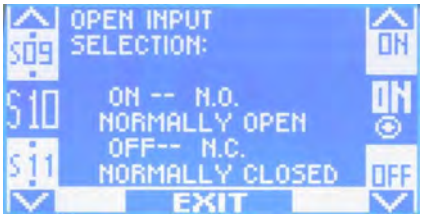
Select ON only if a safety sensor has been installed on opening.

Only if S05 function has been set to ON
Select ON if a safety sensor has been installed on closing and monitored (as required by standard EN 16005) to activate sensor test at the beginning of each cycle, select OFF only if the safety sensor on closing has not been set up to be monitored.
For more information, refer to "Safety sensors" paragraph.

Only if S06 function has been set to ON
Select ON if a safety sensor has been installed on opening and monitored (as required by standard EN 16005) to activate sensor test at the beginning of each cycle, select OFF only if the safety sensor on closing has not been set up to be monitored.
For more information, refer to "Safety sensors" paragraph.

If S07 and/or S08 functions are set to ON only
Select test logic status, used by operator control unit to monitor safety sensors.
The set-up depends on the characteristics of sensor installed.
Select OFF when using “4SAFE ON SW” or OA-EDGET type sensors;
select ON when using “TOP SCAN-S” type sensors.
For more information, refer to "Safety sensors" paragraph.

Contact configuration on OPEN input between terminals 6-7 of PWN-T board.
Select ON with normally open contact or when the OPEN input is not used.
Select OFF when using a device with normally closed contact.



The operator is ready for the set-up cycle.
Press the ❄ (OK) button
The control unit buzzer emits 4 beeps and starts the opening cycle at slow speed.
When the opening stroke is completed, a long beep indicates that the set-up has been successful.
The door automatically closes again.

Only for SMT-B and SMT Operators

Set-up cycle of operators without spring closing happen by motor, then selection of S02 function may be not considered.
Set-up sequence for these operators provide a complete cycle of opening/closing at slow speed; a 3" beep duration mean set-up finishing at the end of closing.

16.5) FUNCTIONAL TESTING

Select door automatic operation by program selector.
Put program manual selector on status I, if used.

Refer to “Program selectors” paragraph describing the selector types provided for to select the automatic door operating mode.

To start an opening manoeuvre, give a pulse to PS1 button (Start) of PWN-T module or engage door opening devices.

Ensure that door opening and closing cycle is properly performed and that pulse organs and safety sensors operate; to adjust sensor detection field, refer to the instructions delivered with the sensor.

During door movement, intermittent signals could be heard as emitted by the buzzer to indicate that the limit power delivered by operator has been reached, especially if leaf dimensions and weight are close to the limits allowed.
A short noise signal by the buzzer during start in opening is to be considered as normal, as the pick-up phase is the moment requiring maximum force.
Adjust the thrust power by P04 parameter of N-DSEL programmer (see . “Adjustment of parameters” paragraph).
To deactivate the buzzer noise signal when the power limit is reached, set up F34 function to ON (see “Functions setup”).

☞
The buzzer noise signal for almost the entire stroke means that the leaf exceeds the limits allowed or installation levels shown on technical installation drawings are not met or frictions exist on the fixture; in this case, the movements of automatic door are difficult and the opening/closing cycle could not be completed.

Impact safety: ensure that stop and reverse of moving direction are performed if the leaf movement is hindered.

To set up the available functions, refer to “Functions setup” paragraph.
To adjust the variable parameters, refer to “Adjustment of parameters” section.

Set-up operation must be repeated if one of the following conditions varies:
door weight, leaf opening angle, spring loading, replacement of L-NEP logic board or of mechanical unit inside Neptis operator.
To repeat set-up, follow the steps described in the previous paragraph, “Initial set-up”.

16.6) INPUTS DIAGNOSTICS

N-DSEL programmer allows checking the inputs status to ensure proper operation of all devices connected with Neptis operator.
To enter "Inputs diagnostics" while the automatic door operating program is shown on display, keep **F2** button pressed for about 3 seconds.

F3 button is exclusively used with a double-leaf swing door; if an M appears on top left, MASTER input ports are displaying, in case of an S, input ports concern SLAVE operator. A single touch on the F3 button switches from M to S.
In case of single-leaf automation, an M appears on top right.

The display shows the symbols of all operator inputs, with the relevant terminal number.
If an input is used, the corresponding symbol lights up with an arrow on a side.

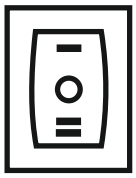
	External radar
	Internal radar
	Start
	OPEN
	Closing safety sensor
	Opening safety sensor
	AUX 1 (it activates if the manual program selector is in position I)
	AUX 2 (it activates if the manual program selector is in position II)
	AUX 3
	EN/RF1 receiver when activated by SPYCO radio control
	unused

17) PROGRAM SELECTORS

The program selector allows the door user to select the operating mode.
The following can be used, according to the choice: manual selector integrated in Neptis operator side, EV-MSEL key mechanical selector or N-DSEL digital programmer.
Each program selector is described in details below.

17.1) MANUAL PROGRAM SELECTOR

The 3-position manual program selector is the basic solution provided for onboard operator.
The operation of this selector is enabled by F01 function OFF (default preset).



Position **I** = Bi-directional automatic program
The door automatically opens when each opening control activates.

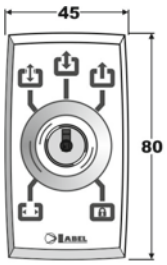
Position **0** = Free manual door
The automatic operation is disabled and door can be manually open.

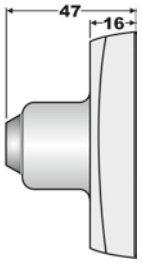
Position **II** = Night lock program
if F07 is set to **OFF** (default) The door can only be open by OPEN input or radio control if EN/RF1 radio receiver is installed.

Position **II** = Open door program
if F07 is set to **ON** The door stops in complete opening position.

17.2) EV-MSEL MECHANICAL KEY SELECTOR

5-position key mechanical selector can be used as an alternative to the manual selector and its operation is enabled by F01 function OFF (default preset).





Disconnect manual selector wires from terminal board of PWN-T module if EV-MSEL mechanical selector is installed.

ELECTRIC CONNECTIONS

Terminal 1 of EV-MSEL= to terminal 9 (Internal radar) of Neptis operator PWN-T.
Terminal 2 of EV-MSEL= to terminal 3 (Common) of Neptis operator PWN-T.
Terminal 3 of EV-MSEL= to terminal 1 (AUX 1) of Neptis operator PWN-T.
Terminal 4 of EV-MSEL= to terminal 4 (AUX 2) of Neptis operator PWN-T.

For any check on proper connection and operation of key mechanical selector, enter inputs diagnostics (see par. 16.5) to ensure that different key positions correspond to activation of the following symbols:

= and
= no active symbol
=
= and
=

OPERATING MODE

Insert and rotate the key in EV-MSEL selector to select the program desired.

	Open door program **The door stops in complete opening position.**
	Free manual door **The automatic operation is disabled and door can be manually open.**
	Bi-directional automatic program **The door automatically opens when each opening control activates.**
	Single-direction automatic program output only **To exclude the incoming detection on external radar input**
	Night lock program **The door can only be open by OPEN input or radio control if EN/RF1 radio receiver is installed.**

The key can be taken out of the selector when in any position in order to prevent the work program from undesired changes.

17.3) N-DSEL DIGITAL PROGRAMMER – USED LIKE PROGRAM SELECTOR

N-DSEL digital programmer can be installed in the system and used by the user like a program selector, as an alternative to manual and mechanical selector if you need a more complete tools in terms of functions and graphs.

To enable N-DSEL operation like a program selector, set up F01 function ON (see "Functions setup" paragraph).

Select the automatic door operating mode by pressing once the SET button.
Each time a button is pressed, it switches from a work program to the next one.

The operating programs to be selected by SET button are described below

Bi-directional automatic program
The door automatically opens when each opening control activates.

Single-direction automatic program output only
To exclude the incoming detection on external radar input

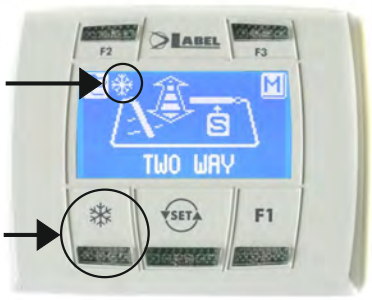
Single-direction automatic program input only
To exclude the outgoing detection on internal radar input.

Open door program
The door stops in complete opening position.

Night lock program
The door can only be open by OPEN input or radio control if EN/RF1 radio receiver is installed.

Free manual door
The automatic operation is disabled and door can be manually open.

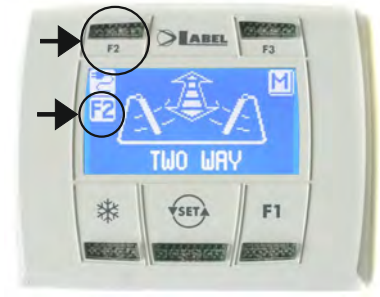
Operation of other buttons located on N-DSEL program selector panel



❄

Pedestrian opening, used in double-leaf door automated device only
To activate pedestrian opening, press the ❄ button.
the symbol ❄ on the display indicates that the function is on.

In a double leaf door, the first leaf (Master) only opens if the opening command is given by internal or external radar inputs.
The pedestrian opening only operates in bi-directional, single-direction and open door automatic programs.
To deactivate pedestrian opening, press again the ❄ button.
For more information, refer to "Two-leaf swing door" paragraph.



F2

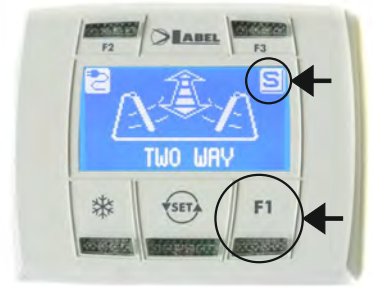
Deactivation of step-by-step operation

Give a pulse to F2 button to deactivate the step-by-step operation previously activated by F13 function ON (see para. “Functions setup”) and enable the door automatic closing.
Press F2 button again to activate step-by-step operation. Symbol F2 on display goes off.

F1

Door opening command

Press F1 button to open the door, but only in bi-directional and single-direction programs (if F33 function OFF).
Press F1 button to open the door in all operating programs, both automatic and night lock (if F33 function ON).



F3

It is only used in one MASTER / SLAVE double-leaf door automated device

F3 button has no function on the main work program selection screen, it is only used to switch from MASTER to SLAVE and to check that communication between operators and N-DSEL programmer is working properly.

Letter M is displayed on top left side when Master operator is selected, letter S appears when Slave operator is selected.

If the system is working properly, door working program is displayed both with M and S, in case of fail communication the message "NO SIGNAL" is displayed for the non-working-properly operator.

- **Power warning light display**

The symbol indicates the presence of mains power voltage and the battery, if any, is operating.

- The symbol ( ) indicates the absence of mains power voltage and operator activity is ensured by emergency battery, if any, which is in working order.
- The symbol ( ) with mains power voltage indicates that the battery is damaged.
  In this case, the control unit buzzer emits a beep before each door opening for 10 cycles (if F09 function OFF), or the door opens and remains open (if F09 function ON).
- The symbol (faulty battery) without mains power voltage indicates that the emergency battery is about to run out.

18) GENERAL PROGRAMMING MENU

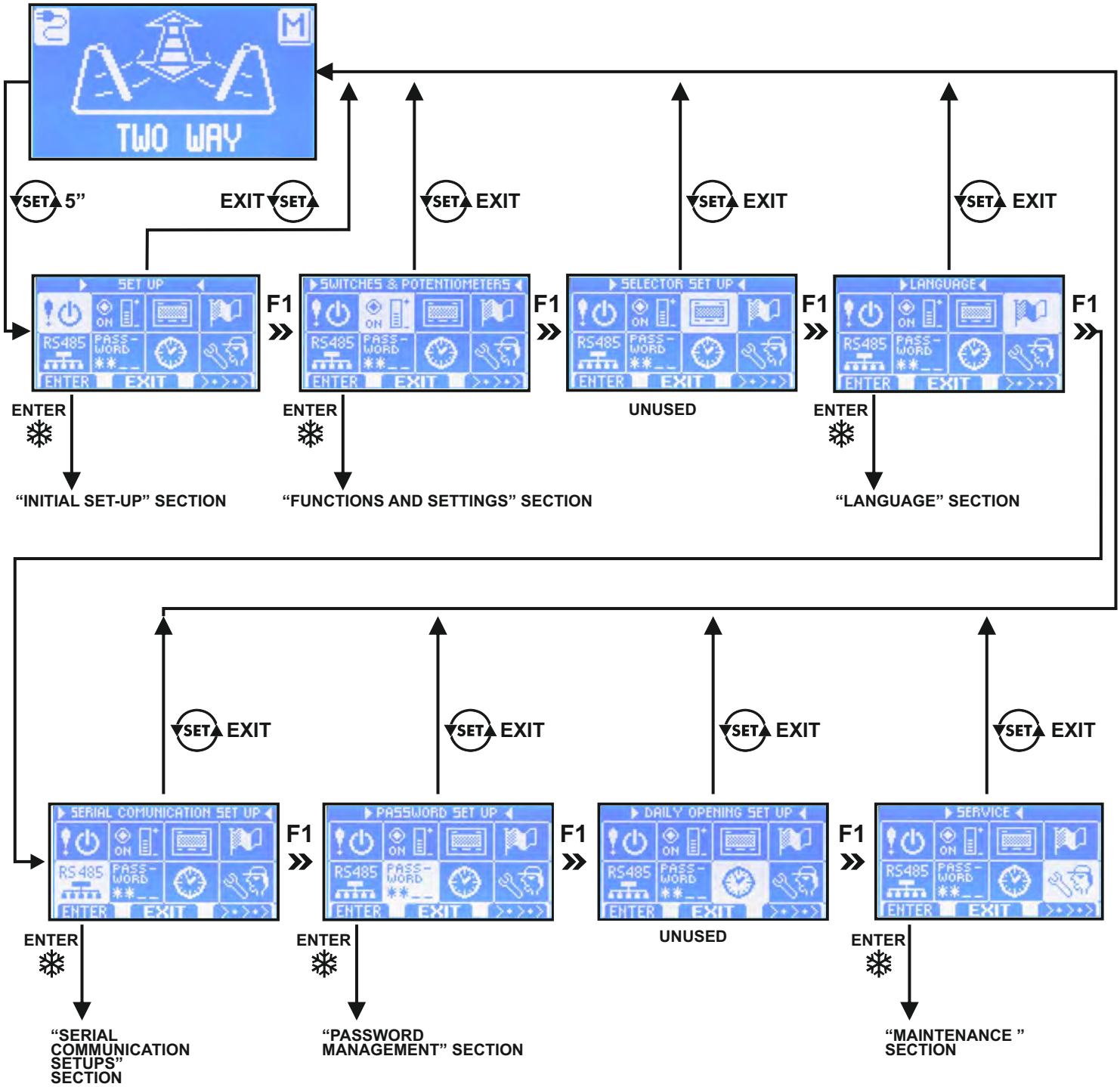
To enter the general programming menu while the automatic door operating program is shown on display, keep SET button pressed for about 5 seconds.

The programming menu consists of different sub-menus divided by subject (Diagram 1).

Select the section you want to have access to by using F1 button >> .
The menu icon selected is highlighted and the section title is shown on display top side.

To enter the selected sub-menu, give a quick pulse on ENTER ❄ button.

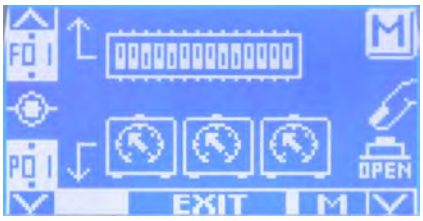
To exit the general programming menu and return to the operating program view, press EXIT SET button.



- **Refer to par. 16.4 when entering the initial set-up section.**
- **Refer to para.16.3 when entering the serial communication setups for single-leaf door; see para. 29.2 for two-leaf swing door.**
- **For the other sub-menus, refer to the following paragraph on the section you have had access to**

19) FUNCTIONS AND REGULATIONS

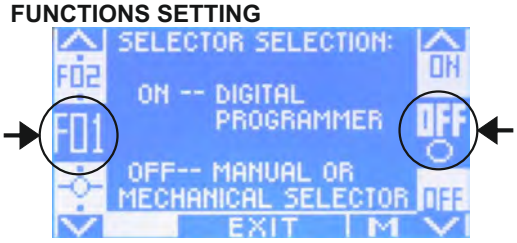
To enter please digit the 10-digits technical password (for detailed information please check paragraph “Password Setting”



In this submenu the push buttons have the following scope:

Push Button F2 = entering the setting for functions F (see paragraph “Functions Setting”);
Push Button ❄ = entering the setting for Parameters P (see paragraph “Parameters Setting”);
Push Button F1 = to run door opening;
Push Button F3 = it is used only in case of double leaf door application to set up the parameters on Master or Slave operator; letter M or S displayed bottom right indicates which operator has been selected. Letter M will appear on display on top right position if the automation is single leaf
Push Button SET = to return to the general setting menu.

19.1) FUNCTIONS SETTING



In this section the display describes the scope of the selected function;
push button F1 is setting the function in OFF;
push button F3 is setting the function in ON;
push button F2 allows proceeding to the following function;
push button ❄ allows returning to the previous function;

Here the explanation of each single function:

FUNCTION	STATUS	DESCRIPTION	*' SLAVE
F01	OFF	Choosing the program selector: manual built-in selector or mechanical key switch EV-MSEL	
	ON	Choosing the program selector: digital selector N-DSEL	
F02	OFF	Singe leaf door (just on display; repeat initial set-up in order to change it)	S
	ON	Double leaf door (just on display; repeat initial set-up in order to change it)	
F03	OFF	Master operator in double leaf door application (just on display; repeat initial set-up in order to change it)	S
	ON	Slave operator in double leaf door application (just on display; repeat initial set-up in order to change it)	
F04	OFF	Electric lock deactivated	S
	ON	Electric lock activated	
F05	OFF	Active function if **F04 = ON**. Impulsive functioning for electric lock (see paragraph "Application with electric lock")	S
	ON	Active function if **F04 = ON**. Permanent functioning for electric lock (see paragraph "Application with electric lock")	
F06	OFF	Electric lock release excluded in free manual door program	S
	ON	Electric lock activated for each door closing in free manual door program (see paragraph "Application with electric lock")	

FUNCTION	STATUS	DESCRIPTION	*' SLAVE
F07	OFF	Active function if **F01 = OFF**. Operation mode for the manual built-in selector in position **II** **II**= Night Lock program	
	ON	Active function if **F01 = OFF**. Operation mode for the manual built-in selector in position **II** **II**= Open Door program	
F08	OFF	For operators with battery = in case of power failure the door keep on working normally with battery power supply	
	ON	For operators with battery = in case of power failure the door opens and remains open in Automatic Door program	
F09	OFF	Battery monitoring = in case of empty or damaged battery the control unit buzzer beeps prior to ten following opening cycles	
	ON	Battery monitoring = in case of empty or damaged battery the door opens and remains open in Automatic Door program	
F10	OFF	For operators with battery = in case of power failure or with almost empty battery the door keep on working normally	
	ON	For operators with battery = in case of power failure or with almost empty battery the door opens and remains open	
F11	OFF	Selecting the program "Night Lock" the door remains closed and can be opened just with the Emergency input	
	ON	Selecting the program "Night Lock" the door opens and remains open for 10" before closing in order to grant escape from building	
F12	OFF	Function for disabled persons deactivated	
	ON	Function for disabled persons activated; see paragraph "Courtesy function for disabled persons" for detailed information on this function mode	
F13	OFF	Function mode with automatic closure	
	ON	Step by step function: one Start or one Emergency input activates door opening while a second input is needed for door closure	
F14	OFF	Standard function mode on inputs internal and external radar	
	ON	Step by step function mode with separate commands. The external radar input activates door opening, whereas the internal radar input activates door closure. The command input (Start, Emergency and SPYCO remote control) operate in standard mode	
F15	OFF	For double leaf door application: partial opening deactivated if key switch selector EV-MSEL is connected	
	ON	For double leaf door application: partial opening activated on Master leaf if key switch selector EV-MSEL is connected (active function if **F01=ON**). For further details please check paragraph "Double leaf swing door application"	
F16	OFF	Active function if **F15=ON**. Partial opening on Master leaf active with key switch selector EV-MSEL in program "Free manual door"	
	ON	Active function if **F15=ON**. Partial opening on Master leaf active with key switch selector EV-MSEL in program "Night Lock"	
F17	OFF	For operators with spring closure: door closure is obtained just through spring power	S
	ON	For operators with spring closure: motor is assisting the spring in door closure. This function is useful in all those cases where the sole spring power is not enough to grant full door closure (i.e. in presence of strong air flows or in case of other unfavourable conditions)	
F18	OFF	Closure safety sensor input deactivated; if a closure safety sensor is not installed	S
	ON	Closure safety sensor input activated; if a closure safety sensor is installed	

FUNCTION	STATUS	DESCRIPTION	*' SLAVE
F19	OFF	Opening safety sensor input deactivated; if a opening safety sensor is not installed	S
	ON	Opening safety sensor input activated; if a opening safety sensor is installed	
F20	OFF	Test on closure safety sensor deactivated. For sensors without monitoring function carried out by the automation control unit	S
	ON	Active function if **F18=ON**. Test on closure safety sensor activated. For sensors with monitoring function carried out by the automation control unit (cat. 2 / pl. C). For detailed information please check paragraph "Safety Sensors"	
F21	OFF	Test on opening safety sensor deactivated. For sensors without monitoring function carried out by the automation control unit	S
	ON	Active function if **F19=ON**.Test on opening safety sensor activated. For sensors with monitoring function carried out by the automation control unit (cat. 2 / pl. C). For detailed information please check paragraph "Safety Sensors"	
F22	OFF	Active function if **F20** or **F21=ON**. Safety sensor test with LOW logic level. For detailed information please check paragraph "Safety Sensors"	S
	ON	Active function if **F20** or **F21=ON**. Safety sensor test with HIGH logic level. For detailed information please check paragraph "Safety Sensors"	
F23		Function disabled	
F24		Function disabled	
F25	OFF	Constant pause time	
	ON	Automatic pause time increase if door is not closing properly due to the high flow of persons walking through it	
F26	OFF	Interlock function deactivated	
	ON	Interlock function activated. Please check paragraph "Interlock System"	
F27	OFF	Active function if **F26=ON**. Delayed door opening for 0,5" after opening command. Please check paragraph "Interlock System"	
	ON	Active function if **F26=ON**. Prompt door opening at opening command. Please check paragraph "Interlock System"	
F28	OFF	Active function if **F26=ON**. Opening command is not being saved. Please check paragraph "Interlock System"	
	ON	Active function if **F26=ON**. Opening command is being saved. Please check paragraph "Interlock System"	
F29	OFF	Active function if **F26=ON**. Standard function mode for the electric lock in interlock system	
	ON	Active function if **F26=ON**. Electric lock deactivated if both doors are closed in automatic program modes. Please check paragraph "Interlock System"	
F30	OFF	OPEN input configuration; normally closed contact. When a device with N.C. contact is installed	
	ON	OPEN input configuration; normally open contact. When a device with N.O. contact is installed	
F31	OFF	For double leaf application: in case of power failure the two leaves starts simultaneously in the first opening phase	
	ON	For double leaf application: in case of power failure the two leaves starts respecting the offset in the first opening phase	

FUNCTION	STATUS	DESCRIPTION	*' SLAVE
F32	OFF	Internal and external radars are deactivated during closing phase in "Night Lock" program	
	ON	Internal and external radars are activated during closing phase in "Night Lock" program, causing the door reopening	
F33	OFF	Push button **F1** of digital selector N-DSEL enables door opening only during automatic program modes	
	ON	Push button **F1** of digital selector N-DSEL enables door opening both during automatic program modes and during "Night Lock" program	
F34	OFF	Activates buzzer warning relative to the reached motor power limit (please check paragraph "Functional Trial")	S
	ON	Deactivates buzzer warning relative to the reached motor power limit	
F35		Function disabled	
F36		Function disabled	
F37		Function disabled	
F38		Function disabled	
F39		Function disabled	
F40	OFF	Cyclic function disabled	
	ON	Cyclic function. Activates the continuous door opening and closing cycle; this function is meant to be used for function testing or laboratory purposes	

***' For double leaf swing door application.** In the column Slave of the present spreadsheet, the functions marked with letter S, have to be separately configured on Slave operator. All other functions not marked with letter S, have to be set on Master operator and are common for both units.

19.2) PARAMETERS SETTING

In this section the display describes the type of selected parameter;
push button F1 decreases the setting value in percentage;
push button F3 increases the setting value in percentage;
push button ❄ allows proceeding to the following parameter;
push button F2 allows returning to the previous parameter;

Here the explanation of each single parameter.

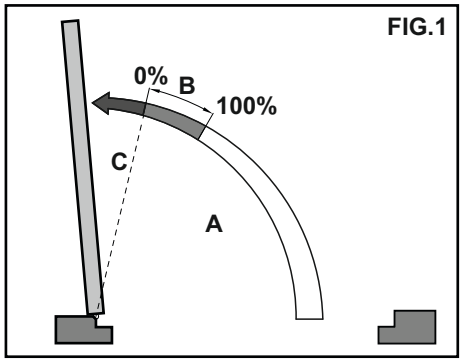
PARAMETER	Ref. Drawing	DESCRIPTION	*'SLAVE
P01	**Fig.1**	**Opening speed.** Increase this value for a faster door opening speed.	**S**
P02	**Fig.2**	**Closing speed.** Increase this value for a faster door closing speed.	**S**
P03	**Fig.4**	**Safety sensor inhibiting distance during opening.**When door leaf at the end of the opening is close to a wall, the safety sensor in opening can detect it and consequently stop the door. Increasing this value to increase the distance from where the signals of the safety sensor in opening are ignored. To keep user safety, we recommend to regulate this exclusion area as short as possibile and set the "slowing down distance in opening" **(P12)** at a distance such that in the area not covered by the sensor the leaf is drive at low speed.	**S**
P04		**Thrust power during opening.** Increase this value for higher motor thrust power during opening (and closing if set closing by motor) cycle.	**S**
P05		**Pause time,** can be regulated between 0 a 20 seconds. It is the time in which the door remains open before closing.	
P06		**Closing voltage at door closed.** Increase this value to keep the motor thrust active with door close.	**S**
P07	**Fig.5**	**Wind stop function at door closed.** At 0% (default value) the function is disabled. Increasing this value the motor is applying an opposite force to wind strength in order to keep the door leaf closed.	**S**
P08	**Fig.3**	**Push & go.** At 0% (default value) the function is disabled. Distance from where a door pushed by hand start to open automatically. Setting range between 2° and 15°.	**S**
P09		**Final thrust for electric lock coupling** (active if **F04=ON**). Increase this value for a higher leaf speed in the last closing phase so that an easier coupling to electric lock is enabled.	**S**

PARAMETER	Ref. Drawing	DESCRIPTION	*'SLAVE
P10		**Closing stroke to release electric lock** (active if **F04=ON**). At 0% (default value) the function is disabled. Increase this value to adjust the closing stroke power of 0,5 second closing before opening cycle. Used to easily release the electric lock.	**S**
P11		**Opening delay at electric lock activation** (active if **F04=ON**). By 0% (default value) the function is disabled. Increase this value to increase the delay leaf opening in respect of the electric lock activation (4 seconds at 100%).	**S**
P12	**Fig.1**	**Slowing down distance in opening.** Slowing down distance in opening. Distance from where the leaf start the low speed in opening. Increase this value to adjust door leaf slowing distance.	**S**
P13	**Fig.2**	**Slowing down distance in closing.** Slowing down distance in closing. Distance from where the leaf start the low speed in closing. Increase this value to adjust door leaf slowing distance.	**S**
P14	**Fig.6**	**Motor thrust distance during end closing** (active if **F17=OFF** for spring closing units). At 0% (default value) the function is disabled. Increase this value to adjust the range in which motor is activated to support door closing, especially in unfavorable conditions like strong air flows. By value 100% the motor is active for the whole closing phase. The motor thrust power can be adjusted by parameter **P15**.	**S**
P15	**Fig.6**	**Motor thrust power in closing.** (active if **F17=OFF** for spring closing units). At 0% (default value) the function is disabled. Increase this value for higher motor thrust power during closing phase. In swing closing units, this parameter is active only when door closure is achieved with motor thrust.	**S**
P16		**Motor thrust time during end closing.** Increase this value to adjust time during which the motor thurst is active in the last closing phase, thus overcoming any friction and achieving complete door closure. At value 100% time would be 1,5".	**S**
P17		**Motor thrust during end opening.** The defaul value (12%) is low in order to reduce leaf juddering during end opening phase. This parameter value has to be increased in case of any difficulty in the last door opening phase and thus increasing motor thrust power.	**S**
P18		**Distance between leaf physical end stop and opening end-running.** Increase this value to increase the gap between the physical end stop on the floor and the position of the leaf with the door full open. This setting can be adjusted for about 5°.	**S**
P19		**Leaf opening delay.** For double leaf application. Increase this value to adjust opening delay between Slave and Master unit. This setting is necessary in case of overlapping leaves. At minimum value 0% both leaves start opening at the same time.	
P20		**Leaf closing dealy.** For double leaf application. Increase this value to adjust closing delay between Master and Slave unit. This setting is necessary in case of overlapping leaves. At minimum value 0% both leaves start closing at the same time.	
P21		**Assisted spring closure** (active just if **F17=OFF** for spring closing units). Increase this value for higher thrust power, to granting the initial closing phase, in all those situations where the spring power is not enough to start closing process.	**S**
P22	**Fig.3**	**Push & close.** If steady door is manually pushed to close direction, an automatic closure is activated. Increase this value to adjust closing corner needed for door leaf to start automatic closing. Setting range between 2° and 15°.	**S**

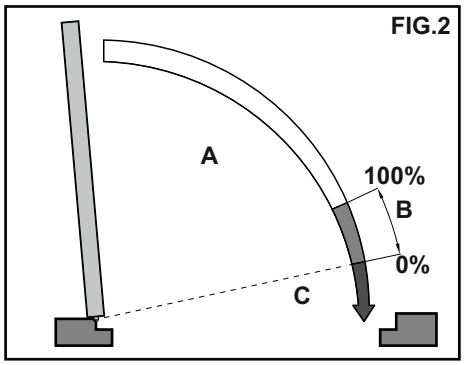
PARAMETER	Ref. Drawing	DESCRIPTION	*'SLAVE
P23		**Opening acceleration ramp:** Increase this value for higher acceleration during opening cycle.	**S**
P24	**Fig.5**	**Wind stop at door open.** Increase this value to achieve a higher opposite force to wind direction in order to keep door open.	**S**
P25		**Closing friction adjustment** (for spring closing units). This parameter regulates the opposite force applied by motor toward a complementary pushing force toward closing direction. Increase this value to achieve a higher leaf resistance.	**S**
P26		**Safety sensor test time** (adjustment enabled if **F20** and/or **F21=ON**). This parameter can be used only if safety sensors with test monitoring option checked by the control unit are installed and in case the default value 0% caues safety test failure. For further information please check paragraph "Safety Sensors".	**S**
P27		**Deactivation time for Interlock system in case that one of the door cannot close properly** (adjustment enabled if **F26=ON**). By 0% (default value) the function is disabled. Increase this value to achieve a higher time after which the interlock function is disabled if one of the two doors cannot close due to high flow of person walking through it. At value 100% time is 2 minute. Please check paragraph "Interlock system".	
P28		**Assisted manual opening** (just with spring closing units). Increasing this value to obtain a lighter manual opening. At minimum value 0% the assisted manual opening is not active.	**S**
P29		Parameter disabled	
P30		Parameter disabled	
P31		Parameter disabled	
P32		Parameter disabled	
P33		Parameter disabled	
P34		Parameter disabled	
P35		Parameter disabled	

*' **For double leaf swing door application.** In the column Slave of the present table, the functions marked with letter S, have to be separately configured on Slave operator. All other functions not marked with letter S, have to be set on Master operator and are common for both units.

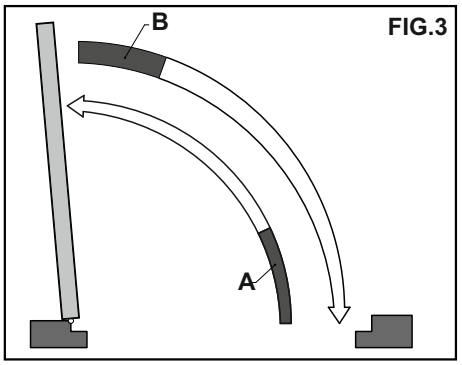
The following drawings show the regulation areas of some parameters described in the spreadsheet in order to better understand its purpose. In the spreadsheet the column “Ref. Drawing” is indicating the drawing number to be checked for any parameter for which a relative drawing has been added.



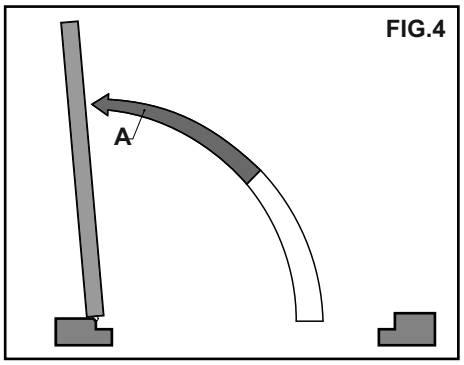
A=Adjusting area of opening speed controlled by P01 parameter
B= Adjusting area of slowing down distance controlled by P12 parameter
C= Adjusting area of approach speed
A+C = Opening time



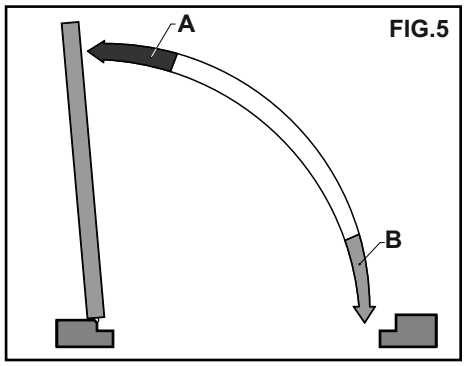
A=Adjusting area of closing speed controlled by P02 parameter
B=Adjusting area of slowing down distance controlled by P13 parameter
C= Adjusting area of approach speed
A+C = Closing time



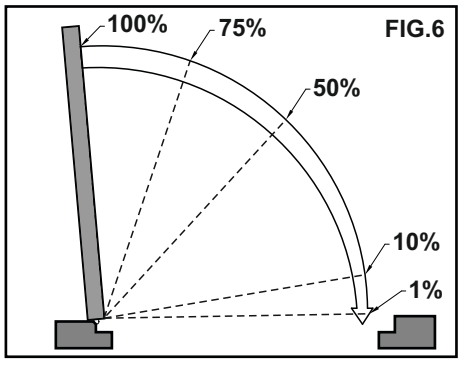
A= Adjusting area of Push&Go controlled by P08 parameter, before automatic opening
B= Adjusting area of Push&Close controlled by P22 parameter, before automatic closing.



A= Adjusting area in which safety sensors are ignored in opening stroke, controlled by P03 parameter



A= Intervention area of Wind Stop with opened door. The opposing force is controlled by P24 parameter.
B= Intervention area of Wind Stop with closed door. The opposing force is controlled by P07 parameter.



Rate (in %) of intervention area, controlled by P14 parameter, in which the motor operated during closing stroke. Motor power can be adjusted by P15 parameter.

20) LANGUAGE

- Use F2 and ❄ buttons to move arrow to the language desired.
- Press EXIT (SET) button to return to general programming menu.

21) PASSWORD MANAGEMENT

This section shows three types of password.

a) TECHNICAL PASSWORD (for technical personnel in charge of installation and maintenance)

It is a 10-character password of installer who starts the system.
Using a technical password is compulsory to prevent unauthorized persons from having access to general programming menu sections concerning parameters and functions setting, initial set-up and maintenance area.
Default preset technical password is "A-A-A-A-A-A-A-A-A-A".

WARNING!
It is recommended to change the default technical password and be very careful not to forget it.

b) PRIMARY PASSWORD (for the system's owner-user)

It is a 5-character password used by the user to prevent unauthorized persons from having access to N-DSEL programmer and change the work program.
Using a primary password is optional and must be enabled by system's owner.
Default preset primary password is "A-A-A-A-A".

WARNING!
When enabling the password, be very careful not to forget the access combination.

c) SERVICE PASSWORD (for user)

It is a 5-character password that the system's owner may divulge to persons to be authorized to use N-DSEL programmer.
The service password only allows changing the automatic door work program.
Default preset service password is "A-A-A-A-A".
To change the service password, it is necessary to have access by primary password.

Use ❄ button to move the selection arrow downward, F2 button to move the arrow upward.

21.1) HOW TO CHANGE THE TECHNICAL PASSWORD

- Select “TECHNICAL PASSWORD”
- Press OK (F1) button.

- Type the default preset technical password “A-A-A-A-A-A-A-A-A-A” by pressing 10 times on A button.

- Type the new technical password, selecting a combination of 10 characters from the letters A-B-C-D.

- It is required to repeat the new password, so type the previous combination again.

- If the password typed is correct, “PASSWORD OK” is shown on display for one second and the general programming menu is restored.

From this moment on, when having access to general programming to enter initial set-up, functions and adjustments, settings of serial communication and maintenance section, the new password stored needs to be typed.
The password is not required afterwards, when toggling among sections without exiting the general programming menu.
If the password typed is not correct, “PASSWORD ERROR” is shown on display and the general programming menu is restored.

21.2) HOW TO CHANGE THE PRIMARY PASSWORD

- Select “PRIMARY PASSWORD”
- Press OK (F1) button.

- Type the default preset primary password “A-A-A-A-A” by pressing 5 times on A button.
- (IF the primary password is not the default password as it had already been changed before, type the currently-used primary password).

- Type the new primary password, selecting a combination of 5 characters from the letters A-B-C-D.

- It is required to repeat the new password, so type the previous combination again.

- If the password typed is correct, “PASSWORD OK” is shown on display for one second, thus reverting to the PASSWORD MANAGEMENT section; through the EXIT (SET) button the general programming menu is restored.
- On the contrary, if the password typed does not match the previous one, PASSWORD ERROR is displayed, thus reverting to PASSWORD MANAGEMENT section. The procedure needs to be carried out again.

21.3) HOW TO CHANGE THE SERVICE PASSWORD

- Select "SERVICE PASSWORD"
- Press OK (F1) button.

- Type the primary password

- Type the new service password, selecting a combination of 5 characters from the letters A-B-C-D.

- It is required to repeat the new password, so type the previous combination again.

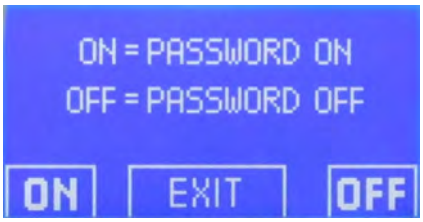
- If the password typed is correct, “PASSWORD OK” is shown on display for one second, thus reverting to PASSWORD MANAGEMENT section.

Pressing the EXIT (SET) button the general programming menu is available again.
If the password typed does not match the previous one, PASSWORD ERROR is displayed, thus reverting to PASSWORD MANAGEMENT section. The procedure needs to be carried out again.

21.4) ENABLING USER (primary and service) PASSWORD USAGE

- Select “PASSWORD ON / OFF”
- Press OK (F1) button.

- Type the primary password



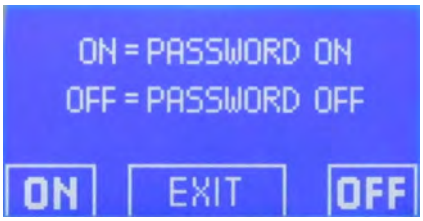
- Press ON ❄ button to enable the user password usage and return to PASSWORD MANAGEMENT menu.
  To return to work program view, press EXIT (SET) button twice.
- From this moment on, whenever the user wants to access to N-DSEL digital programmer to change the automatic door work program, the primary or service password must be typed.

When the user decides to enable the password usage, it is recommended to change the combination of both primary and service password.

21.5) DEACTIVATING THE USER PASSWORD USAGE

- From PASSWORD MANAGEMENT section, type “PASSWORD ON / OFF”
- Press OK (F1) button

- Type the primary password



- Press OFF (F1) button to disable user password usage. To return to general programming menu press the EXIT (SET) button twice.
- From this moment on, the access to N-DSEL digital programmer as program selector is free.

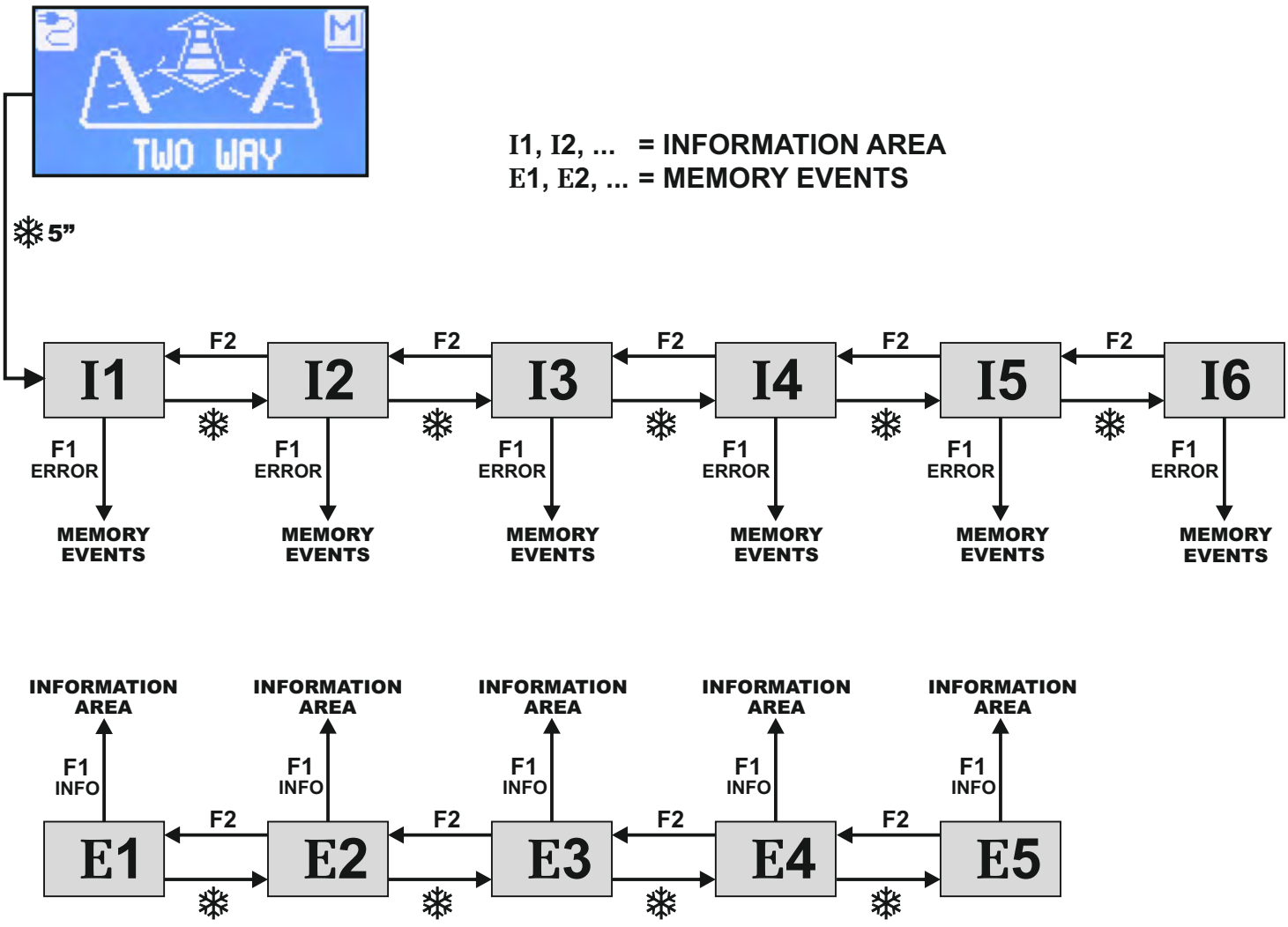
22) INFORMATION AND EVENTS MEMORY

N-DSEL digital programmer allows displaying information on automation and accessing to events memory, where fault errors are stored.

After displaying the automatic door work program, press * button for 5" to enter the information area (Diagram 2).

The buttons inside the information area are used as follows:

- v * button allows forwarding to the following information or event in events memory.
- ^ F2 button allows forwarding to the following information or event in events memory.
- F3 button is only used with two-leaf swing door and the symbol on the top right side of display shows M if Master operator information is displayed, or S if Slave operator is involved.
  Every touch on F3 button allows shifting from M to S and vice versa.
  In case of single-leaf automation, letter M is shown on the top right side of display.
- F1 button allows shifting to events memory to display error messages and return to information area by pressing it again
- EXIT (SET) button allows returning to main view of door work program.



The diagram shows the path for access to information and events memory display; text in figures are for exemplification only.
Refer to the following tables for the list of information and error messages.

Refer to the following tables for a list of information and error messages.

INFORMATION AREA

NUMBER	INFORMATION	MEANING
I1	**Serial number**	Display serial code of logic board L-NEP
I2	**Partial cycles**	Display opening/closing door cycles since last maintenance. This counter must be reset every maintenance by authorized personnel (See "Maintenance" chapter)
I3	**Total cycles**	Display total opening/closing door cycles since first time operation.
I4	**Release Micro "A"**	Display Micro "A" software release of logic board L-NEP.
I5	**Release Micro "B"**	Display Micro "B" software release of logic board L-NEP.
I6	**Identificative number**	Identification number containing useful data for manufacturer.

MEMORY EVENTS

Message of warnings or errors that can be read by digital programmer N-DSEL (E1-E2-E3-E4-E5)

WARNINGS

SIMBOL	SCREEN MESSAGE	MEANING	SOLUTION
⚠	RESET SOFTWARE	Generic malfunction that caused a reset of the microcontroller.	There is an automatic recovery system in case of temporary malfunction.
⚠	OBSTACLE IN OPENING	The door detect an obstacle during the opening cycle that caused the reversal direction of the leaf.	If the problem persists, check if there is any obstacle that stop the door and remove it, or control the smoothness of the leaf.
⚠	OBSTACLE IN CLOSING	The door detect an obstacle during the closing cycle that caused the reversal direction of the leaf.	If the problem persists, check if there is any obstacle that stop the door and remove it, or control the smoothness of the leaf.
⚠	RESET 4 OBSTACLE IN CLOSING	If, during closing, the door detect an obstacle at the same point for 4 consecutive times, a reset occurs with subsequent opening at slow speed.	Remove the obstacle that prevents the complete closure of the door.
⚠	BATTERY LOW LEVEL	Low battery level in absence of mains power, with battery operation (only for operators with N-BAT battery module).	As soon as the mains supply returns the battery will be recharged.

ERRORS

SIMBOL	SCREEN MESSAGE	MEANING	SOLUTION
ⓘ	FAULT CURRENT	The cyclical testing of the detection circuit current has failed.	The system automatically resets and, after a few seconds, repeat again the test. If the problem persists it is a defect on the logic board L-NEP.
ⓘ	FAULT POWER	The control of the driving signal of the motor has detected a fault.	The system automatically resets and, after a few seconds, repeat again the test. If the problem persists it is a defect on the logic board L-NEP.
ⓘ	ERROR INITIAL SET UP	The operator is not able to finish the initial set-up.	Control the smoothness of the door and that there are no obstacles along the way, that motor and encoder are connected and try again to set-up the door.
ⓘ	ERROR ENCODER OR MOTOR	Encoder signals are not detected or the motor does not turn.	Check that the cables and connector of the motor and encoder are well inserted and not damaged.
ⓘ	FAULT ENCODER	Fault detected during the test operation of the encoder.	The system automatically resets, and repeat again the test at the first cycle. If the problem persists it is a defect on the logic board L-NEP.
ⓘ	ERROR SAFETY SENSOR IN OPENING	The test on the safety opening sensor is failed.	Verify that the settings and parameters related to the safety sensor test are correct, on the operator and on the sensor.Also check that the electrical connection between the sensor and controller are correct.
ⓘ	ERROR SAFETY SENSOR IN CLOSING	The test on the safety closing sensor is failed.	Verify that the settings and parameters related to the safety sensor test are correct, on the operator and on the sensor.Also check that the electrical connection between the sensor and controller are correct.
ⓘ	FAULT BATTERY	The battery is damaged (only for operators with N-BAT battery module).	Verify the efficiency of the battery and the control module N-BAT.
ⓘ	FAULT BRAKING	The control of the braking during closing cycle has detected a fault.	The system automatically resets and repeat again the test in every cycle. If the problem persists it is a defect on the logic board L-NEP.
ⓘ	FAULT EEPROM REGISTER	The test of the internal memory cells related to the safety parameter has failed.	The system automatically resets and, after a few seconds, repeat again the test. If the problem persists it is a defect on the logic board L-NEP.
ⓘ	ERROR COMMUNICATION MASTER-SLAVE	The communication line between master and slave is missing. (with double door only)	Check that the WRNMS cable is connected between master and slave and that the configuration setting for double swing unit is correct.
ⓘ	GENERAL ERROR SLAVE	A fault is present on the slave operator. (with double door only)	Access memory events on the slave operator and check what type of problem is displayed.

The events memory stores the last 5 error messages in chronological order.
When all the 5 memory cells are full of messages, the following event stored shall be located in E1 cell, the other memory events are shifted by one position and the event in E5 cell shall be deleted.
The events memory stores messages, divided into warnings and errors.
The errors stored are shown by symbol (picture ! circled) directly from main screen of work program; enter the events memory to show the relevant message.
The warnings stored are not shown in the main screen of work program, but only stored in events memory.

23) MAINTENANCE

To enter, type 10-character technical password (for more information, refer to “Password management” paragraph).

Access to this section only for setting to zero the errors in the events memory, for setting to zero the partial counter of opening/closing cycles performed by the door and for deleting the initial set-up performed when operation starts.
The reset of events memory and partial counter must be performed by specialized personnel only during routine maintenance, after performing all checks on system operation.
Simbolo di nota
Never delete set-up.
Only in case of leaf stroke change, reuse of operator or L-NEP logic board in a new system or if the spring needs to be reloaded (unloaded during arm extraction because spring preload lock procedures have not been properly performed), it is necessary to delete set-up and proceed to a new set-up following operations described in par. 16.3 (for single-leaf door) or par. 26.2 (for double-leaf door).

The buttons in this section are used as follows:

- v * button allows forwarding in reset type selection.
- ^ F2 button allows returning to previous reset.
- F1 (OK) button allows confirming data zero-set operation for the reset type selected.
- F3 button is only used with two-leaf swing door and the symbol on the top right side of display shows M if reset operations are relevant to Master operator, or S if Slave operator is involved.
  Every touch on F3 button allows shifting from M to S and vice versa.

In case of single-leaf automation, letter M is shown on the top right side of display.

24) ELECTRIC LOCK APPLICATION

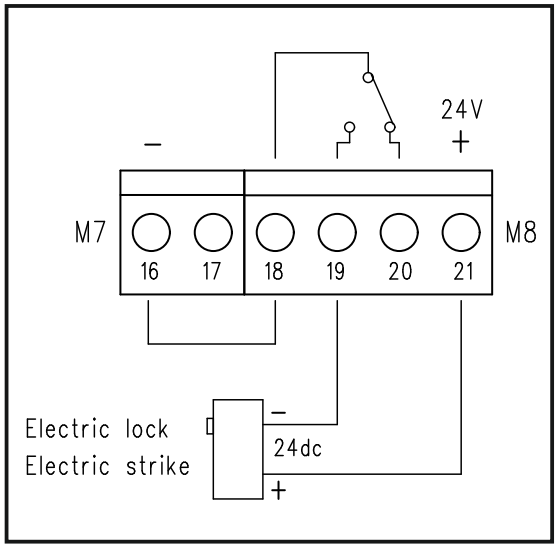
To block the door in closing position, Neptis operator is ready to drive an electric strike, an electric lock or an magnetic lock.

24.1) ELECTRIC LOCK / ELECTRIC STRIKE

Functions settings to activate electric lock:

- F04 = ON to activate electric lock output.
- F05 = OFF to enable impulsive driving.
- F06 = ON

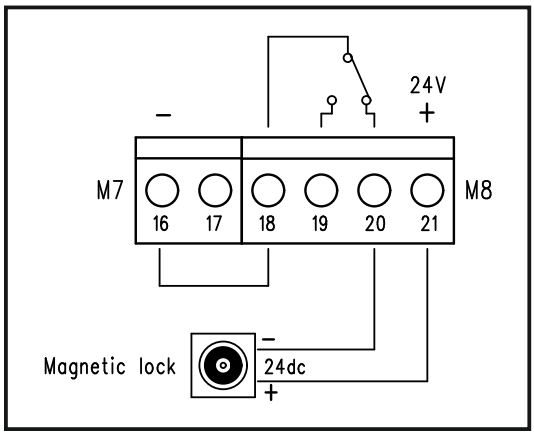
If automatic release of electric lock is required when door is closed, with the work program mode set to “Manual”, so to predispose door to be opened manually.
If digital programmer N-DSEL is used it's possible activate the automatic release of electric lock at the end of closing stroke, also in the automatic work programs.
Push F2 button on N-DSEL programmer to activate the function (F2 symbol appear on display).
Push again F2 button on N-DSEL programmer to disactivate the function (F2 symbol disappear on display).



Parameters settings for electric lock managing:

- P09
  Adjust the speed of the door in the last degrees of the closing stroke to facilitate electric lock coupling.
- P10
  Power during the 0,5 seconds of stroke on closing before opening to release electric lock.
  At 0% value the function is disabled, between 01 to 100% the power increase proportionally.
- P11
  Delay between electric lock and motor activation in opening.
  At 0% value the function is disabled, between 01 to 100% the power increase proportionally until 4 seconds.

24.2) MAGNETIC LOCK



Functions settings to activate magnetic lock:

- F04 = ON to activate electric lock output.
- F05 = ON to enable permanent driving, that keep magnetic lock powered with closed door.

In the working program “Manual” the magnetic lock isn't powered with door closed, so to move door manually.
Activating “Push & Go” function (P08 parameter), the magnetic lock isn't powered with door closed in the automatics working program to allow manually opening. It work only in the “Night lock” program.

25) SAFETY SENSOR DEVICES

This section describes how to connect and configure properly some of the safety sensors in compliance with the standard EN12987 available on the market, to ensure a level of safety corresponding to PL = c, Category 2 as required by the standard EN16005.

25.1) SENSOR OA-EDGE T

WIRING CONNECTION SENSOR OA-EDGE T			WIRING CONNECTION NEPTIS OPERATOR
Wiring between the sensor and the terminal block of the PWN-T board on Neptis operator			
1. WHITE	(+)	Supply power	TERMINAL 17 (+)
2. BROWN	(-)	Supply power	TERMINAL 16 (-)
3. GREEN	COM	(Closing side)	TERMINAL 3 COM
4. YELLO	N.C.	(Closing side)	TERMINAL 2 Safety sensor in closing
5. GREY	N.O.	(Closing side) do not connect	
6. PINK	COM	(Opening side)	TERMINAL 7 COM
7. BLUE	N.C.	(Opening side)	TERMINAL 5 Safety sensor in opening
8. RED	N.O.	(Opening side) do not connect	
9. BLACK	(+)	Test input	TERMINAL 25 TEST (+)
10. VIOLET	(-)	Test input	TERMINAL 26 GND (-)

DIP SWITCH SETTING ON OA-EDGE T

A7 = ON Low level test input.

A8 = OFF Input test delay 10msec..

For other option and settings available on the safety sensor, see the instructions supplied with the sensor OA-EDGE-T.

PARAMETERS ON DIGITAL PROGRAMMER N-DSEL

F20 = ON For safety sensor in closing

F21 = ON For safety sensor in opening

F22 = OFF Test level LOW

SETTING ON THE L-NEP BOARD

Jumper J13 = position **P**

25.2) SENSOR 4SAFE ON SW

WIRING CONNECTION SENSOR 4SAFE ON SW			WIRING CONNECTION NEPTIS OPERATOR
Wiring between the sensor and the terminal block of the PWN-T board on Neptis operator			
1. GREEN	(+)	Supply power	TERMINAL 17 (+)
2. BROWN	(-)	Supply power	TERMINAL 16 (-)
3. YELLOW	COM	(Opening side)	TERMINAL 7 COM
4. WHITE	N.C.	(Opening side)	TERMINAL 5 Safety sensor in opening
5. BLACK	N.O.	(Opening side) do not connect	
6. PINK	COM	(Closing side)	TERMINAL 3 COM
7. VIOLET	N.C.	(Closing side)	TERMINAL 2 Safety sensor in closing
8. GREY	N.O.	(Closing side) do not connect	
9. RED	(+)	Test input	TERMINAL 25 TEST (+)
10. BLUE	(-)	Test input	TERMINAL 26 GND (-)

DIP SWITCH SETTING ON 4SAFE ON SW

DIP 1 = ON Sensor installed opening side

DIP 1 = OFF Sensor installed closing side

For other option and settings available on the safety sensor, see the instructions supplied with the sensor 4SAFE ON SW.

PARAMETERS ON DIGITAL PROGRAMMER N-DSEL

F21 = ON For safety sensor in opening

F20 = ON For safety sensor in closing

F22 = OFF Test level LOW

SETTING ON THE L-NEP BOARD

Jumper J13 = position **P**

WIRING CONNECTION SENSOR TOPSCAN-S			WIRING CONNECTION NEPTIS OPERATOR
Wiring between the sensor and the terminal block of the PWN-T board on Neptis operator			
1.	(-)	Supply power	TERMINAL 16 (-)
2.	(+)	Supply power	TERMINAL 17 (+)
3.	COM		TERMINAL 7 COM
4.	N.O.	do not connect	
5. 5.	N.C. N.C.	se il sensore è installato dal lato apertura se il sensore è installato dal lato chiusura	TERMINAL 5 Safety sensor in opening TERMINAL 2 Safety sensor in closing
6.	TEST	test input	TERMINAL 25 TEST (+)

SETTING ON TOPSCAN-S

For other option and settings available on the safety sensor, see the instructions supplied with the sensor TOPSCA-S, In particular make sure to cut configuration jumper J on the sensor according to the instructions of the TOPSCAN-S.

PARAMETERS ON DIGITAL PROGRAMMER N-DSEL

F21 = ON For safety sensor in opening

F20 = ON For safety sensor in closing

F22 = ON Test level HIGH

SETTING ON THE L-NEP BOARD

Jumper J13 = position **P**

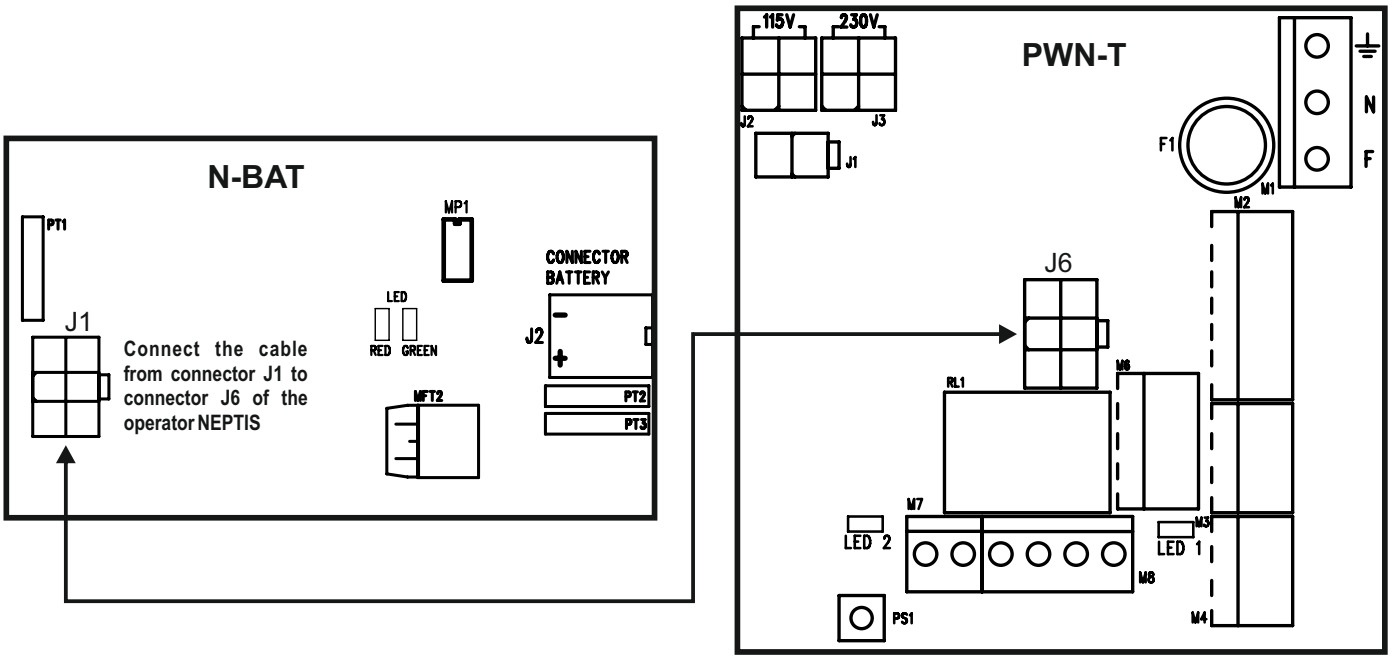
The parameter 26 on digital programmer N-DSEL adjusts the timing of testing of the safety sensor. In case of failure of safety tests on the sensor TOPSCAN-S may need to increase the value of this parameter.

The test of the safety sensors occurs at the beginning of each cycle of opening and closing of the door. If the sensor does not respond properly to the test the buzzer on the operator control unit will beep, and the speed of the leaf will be slow (at safety speed) for the entire cycle.

26) N-BAT BATTERY MODULE

Electric connection

Connect the J1 connector of the N-BAT/E module to the J6 connector of the PWN-T power supply unit through the special cables.
The battery cable must be connected to the J2 connector of the N-BAT.



Operation

The N-BAT/E module trips in case of mains power failure, allowing the Neptis operator to keep running.
The battery operating time depends on various factors, like the number of operations performed, the leaf weight, the connected external devices , etc....
As a rough guide, the charged battery can supply power for about 30 consecutive door opening/closing cycles, or for about two hours with the door stopped.

IMPORTANT!
BATTERY TYPE: 3x6V (18V) - 1.3Ah

LED SIGNALLING

SIGNALLED EVENTS	GREEN LED	RED LED
BATTERY DISCONNECTED	ON	ON
BATTERY CHARGING	BLINKING	OFF
BATTERY CHARGED WITH MAINS VOLTAGE	ON	OFF
BATTERY DISCHARGED	OFF	BLINKING
BATTERY CHARGED WITHOUT MAINS VOLTAGE	OFF	ON

WARNING!

- Periodically check battery efficiency
- To allow recharging batteries must always be connected to the electronic control unit
- The equipment must be disconnected from the mains when removing the batteries
- In case of replacement, always use genuine batteries.
- Replacement must be performed by qualified personnel
- Remove batteries from the equipment before its disposal
- Batteries contain polluting substances; therefore they must be disposed of in accordance with the provisions of local regulations

27) EN/RF1 RADIO RECEIVER

1 - GENERAL INFORMATION
The EN/RF1 single-channel receiver is a 433.92 MHz radio receiver designed to open the Neptis automatic door using the SPYCO transmitters manufactured by Label.

2 - USE
The EN/RF1 receiver must be coupled to the J12 connector of the L-NEP electronic control unit and it is prearranged to operate the opening of the automatic door in all the automation work programs.

The automatic door opening control is given by the SPYCO radio-control, while the protection and safety of the door movement are ensured by devices outside the receiver itself.
It shall never be used in any case where the output activation or deactivation may cause injuries and damage.
Class 3 receiver in compliance with the ETSI EN 300-220-1 V.2.1.1 (2006-04) standards, chapter 4.1.1.

3 - INSTALLATION OF THE RECEIVER
Couple the EN/RF1 receiver (fig. 1) to the J12 connector of the electronic control unit L-NEP (fig.2).
Proceed with saving the SPYCO radio-controls (fig.3) as follows:

a) Enter the programming mode of the SPYCO transmitters pressing and holding the SW1 button until the L1 led is steadily lit (approx. 3 seconds).
b) Press the button of the SPYCO transmitter to be saved and the successful saving will be indicated by 5 fast flashings of the L1 led .
c) Afterwards, the L1 led will be steadily lit again and it will be possible to save another transmitter by repeating the described operation from step b) and so on with all the transmitters to be used.

NOTE:
- Should the button of an already saved transmitter be pressed during the programming phase, the L1 led of the receiver will blink slowly for 5 times .

MEMORY FULL
- A maximum of 250 transmitters can be saved on the receiver.
  When the last memory cell available (ZC1) is reached, the L1 led will blink slowly for 5 times .

d) Once the transmitter saving procedure is finished, exit the programming mode by pressing and holding the SW1 button until the L1 led turns off (O).

4 - USE OF THE RADIO-CONTROL
By pressing the button of a saved SPYCO transmitter, the automatic door opens and the L1 led of the receiver will remain on until the button of the transmitter is released.
The radio-control opens the door in all the automation work programs.

5 - CANCELLATION OF THE MEMORY OF THE RECEIVER
Should it be necessary to cancel all the saved transmitter codes from the memory of the EN/RF1 receiver, proceed as follows:

a) Extract the EN/RF1 receiver from the connector J12 of the L-NEP control unit.
b) Keep the receiver SW1 button pressed and then couple again the EN/RF1 receiver to the J12 connector of the L-NEP control unit.
c) Release the EN/RF1 receiver SW1 button only when the L1 led of the receiver starts blinking.
d) The L1 led will be blinking very fast for approx. 8 seconds, thus indicating the cancellation of the memory of the receiver.
e) When the cancellation of the memory of the EN/RF1 receiver is finished, the L1 led will turn off.
f) At this point, it is possible to save again the code of the transmitters to be used, following the procedure described in paragraph 3.

6 - TECHNICAL SPECIFICATIONS

Power supply	12Vdc
Absorption	10mA stand-by - 50mA in operation
Outputs	OPEN COLLECTOR
Frequency	433.92 Mhz
Memory capacity	250 users
Range without obstacles	30 meters
Operating temperature	-20° / +55°
Receiver class (ETSI EN 300-220-1 Chapter 4.1.1)	Class 3

7 - DECLARATIONS
Marketing, sale and use are valid without restrictions in all EU countries.
With this document Label SpA declares that the EN/RF1 receiver complies with all the essential requirements and with all other relevant dispositions established by 1999/5/EC directive.
The conformity declaration is attached to the EN/RF1 receiver instructions.

SIGNIFICATO LED - LED MEANING - SIGNIFICATION LED SIGNIFICADO DEL DIODO EMISOR DE LUZ

○	**LED SPENTO - LED OFF - LED ÉTEINTE - DIODO EMISOR DE LUZ APAGADO**
☀	**LED ACCESO - LED ON - LED ALLUMÉE - DIODO EMISOR DE LUZ ENCENDIDO**
☀	**LED LAMPEGGIANTE LENTO - LED BLINKING SLOW - LED À CLIGNOTEMENT LENT DIODO EMISOR DE LUZ DESTELLANDO LENTO** memoria piena o trasmettitore già in memoria - full memory or transmitter already saved mémoire pleine ou transmetteur déjà mémorisé - memoria llena o transmisor ya en memoria
☀	**LED LAMPEGGIANTE VELOCE - LED BLINKING FAST - LED À CLIGNOTEMENT RAPIDE DIODO EMISOR DE LUZ DESTELLANDO RÁPIDO** memorizzazione trasmettitori - transmitter saving - mémorisation transmetteurs - memorización de transmisores
☀	**LED LAMPEGGIANTE MOLTO VELOCE - LED BLINKING VERY FAST - LED À CLIGNOTEMENT TRÈS RAPIDE - DIODO EMISOR DE LUZ DESTELLANDO MUY RÁPIDO** cancellazione memoria - memory cancellation - effacement mémoire - borrado memoria

FIG. 1

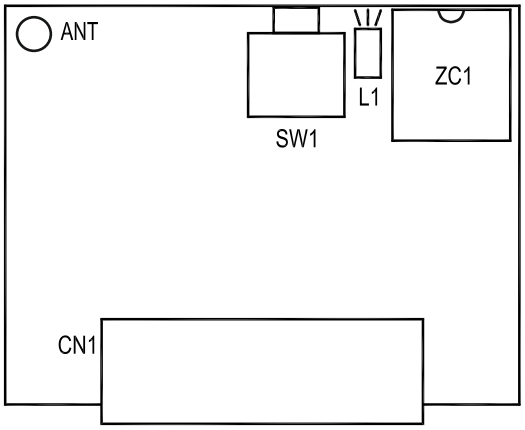


FIG. 3

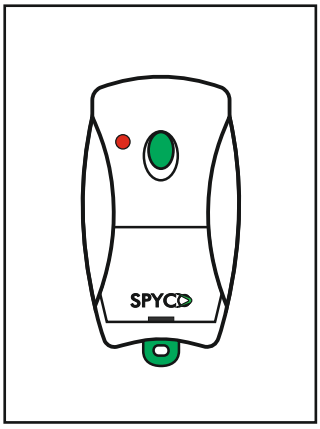
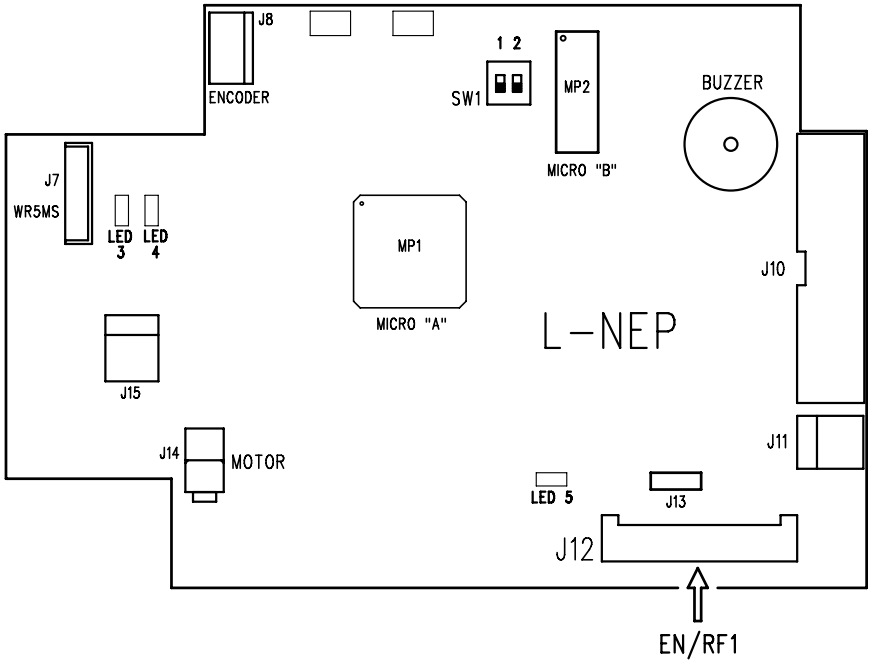


FIG. 2



28) DISABLED PEOPLE COURTESY FUNCTION

Enable this function by setting function F12=ON on the digital programmer N-DSEL.

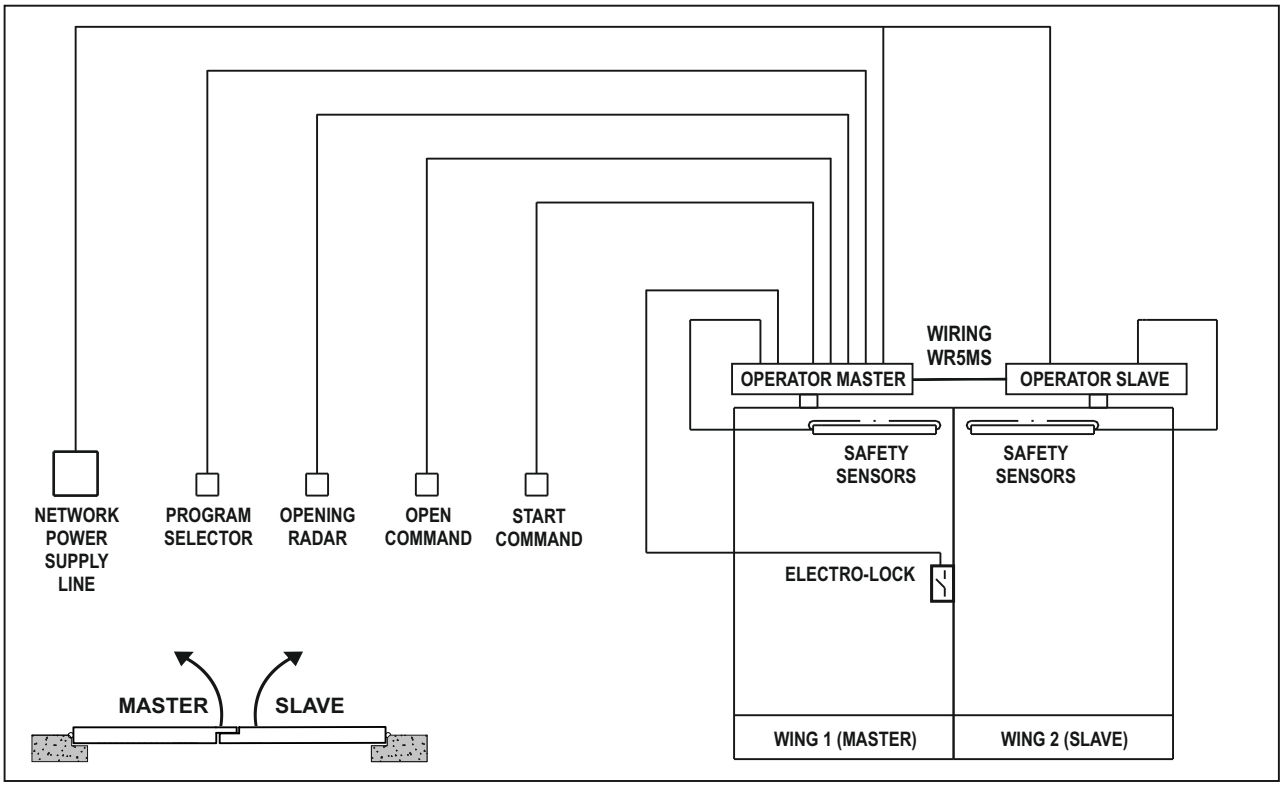
- The inputs suitable for use by disabled people must be connected to the START or OPEN input terminals.
  Even the remote control SPYCO combined with radio receiver EN/RF1 can be used as disable people input.
- Adjust the pause time (parameter P05 on the digital programmer N-DSEL) to hold the door open for a sufficient time to allow the disabled person to be able to pass through the door before the automatic closing.
- If at the end of the opening cycle or during the pause time, the safety sensor in closing detects the presence of the disabled people, the pause time is reduced to 3 seconds (even if is set at higher value) after which the door closes .
- The door closes immediately without taking into account the pause time if the opening is activated by external radar input , internal radar input or with a manual push if push & go function is enable.

29) DOUBLE LEAF DOOR SET

To manage the operation of a swing door with two leaf two operators is needed, one must be configured as master and the other must be configured as a Slave.
In the case of overlapping leaf, the operator applied to the door leaf that overlap the other (the one that opens first) must be configured as Master.

29.1) ELECTRICAL WIRING FOR A DOUBLE LEAF DOOR SET

Make the electrical connections at the operators (see Section 12 "Electrical connections"), taking in to account that all the devices used to open the door, the program switch and the solenoid must be connected to the Master operator.
Safety sensors installed on the master leaf must be connected to the operator Master, security sensors installed on the slave leaf must be connected to the Slave operator.
If the door has a double solenoid to lock each door individually, connect the electric lock that blocking the slave door at the slave operator.
Simbolo di nota
Gli operatori Master e Slave devono essere connessi tra di loro tramite il cablaggio “WR5MS”, i cui terminali devono essere inseriti nel connettore J7 delle schede logiche L-NEP degli operatori.
Collegare all'operatore Master il programmatore N-DSEL.



29.2) DOOR SET UP

After completing the mechanical installation and after that electrical connections are made, manually check that the movement of both leaves is friction-free for all the stroke.

Before power up the operator set the switch SW1 on the logic board L-NEP as indicated on the following table.

	SW1 DIP 1	SW1 DIP 2
L-NEP MASTER OPERATOR	OFF	OFF
L-NEP SLAVE OPERATOR	ON	OFF

Follow now the next steps to complete the operator set up.

1. Turn on main power supply on both operators.

2. If the digital programmer N-DSEL has been used before, the display will show "No Communication" because the new serial numbers of the operator's board L-NEP are not stored in the programmer N-DSEL.

Press and hold for about 5 seconds the SET push button to enter the general programming menu, and from there select the submenu "Settings serial communication" (as indicated in par. 18).

- If the digital programmer N-DSEL is new and is powered for the first time, you will be required to choose your preferred language as specified in paragraph 16.1, then you will automatically enter the "Setting serial communication".

3. SERIAL COMMUNICATION SETTING

The programmer N-DSEL recognizes the presence of the two operators in the system (Fig. A) and acquires automatically the serial number of the logic boards L-NEP (fig. B).
At the end of the acquisition of the logic boards serial numbers, the display will show the symbol closed padlock on the icons with letters M and S (fig. C) and the programmer N-DSEL will be able to manage both master and slave operators.

fig. A

fig. B

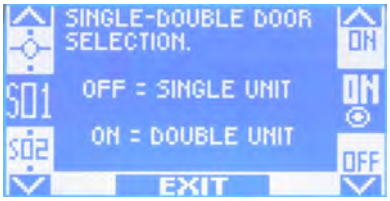
fig. C

Press EXIT (SET) push button to exit from "Settings serial communication" and come back to the general programming menu .

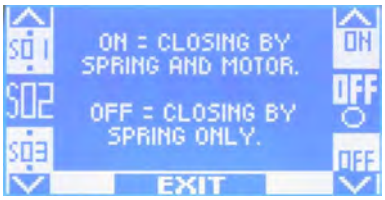
4. INITIAL SET-UP

From the general programming menu , enter in the "INITIAL SET UP" menu (as indicated in par. 18)
Enter the 10 digits of the technique password to access the configuration set-up.
(for more information on using technique password, see the par. "Password management" 21 and 21.1).
In this section the push-button F1 / F3 set the OFF / ON state of the function.
With the push-button * you go to the next function, with the F2 you return to the previous function.

SETTING OF THE DOUBLE LEAF FUNCTIONS.



- Set function S01 ON = double leaf door.



- The function F2 is related just at the models SLT-B, SLT, LET-B, LET.

Select if the closing cycle must use only the force of the spring (OFF), or if also activate the motor (ON) for ensure greater strength of reclosing.

- The S03 function must be set ON just in case an electro-lock is set on the door.
  Only on the Master operator the electro-lock output will be activated.

- The function S04 is displayed only if function S03=ON.
  Select the electro-lock type installed:
  OFF: electric strike; ON: maglock.

The function S05 must be selected ON if a safety sensor in closing is installed. Selecting this function

The function S05 must be selected ON if a safety sensor in closing is installed.
Selecting this function is valid for both Master and Slave operators.

The function S06 must be selected ON if a safety sensor in opening is installed.
Selecting this function is valid for both Master and Slave operators.

- The function S07 is displayed only if the function S05 = ON
  Select ON if you have installed a safety sensor in closing monitored (as required by standard EN16005) to activate the test sensor at the beginning of each closing cycle.
  For more information, refer to par. "Sensors safety."
  Select OFF if the safety sensor in closing is not arranged to be monitored.

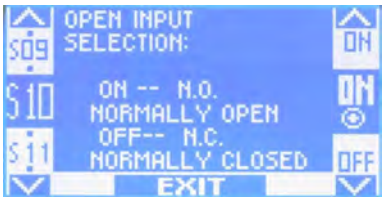
- The function S08 is displayed only if the function S06 = ON
  Select ON if you have installed a safety sensor in opening monitored (as required by standard EN16005) to activate the test sensor at the beginning of each opening cycle.
  For more information, refer to par. "Sensors safety."
  Select OFF if the safety sensor in opening is not arranged to be monitored.

- The function S09 is displayed only if the function S07and/or S08 = ON.

Select the logical state of the test used to monitor the safety sensors.
The setting depends on the characteristics of the sensor.
Select OFF for sensors "4SAFE SW ON" or "OA-EDGE T.
Select ON for the sensor "TOP SCAN-S".
For more information, refer to par. "Sensors safety."

- Configuration of the contact on the OPEN input between terminals 6-7

Of the PWN-T board.
Select ON with normally open contact, or if you do not use OPEN input.
Select OFF if you are using a device with a normally closed contact.



5. The operators are now ready to start the set-up cycle.
   Press the * button (OK) to start the set-up cycle.

6. INITIAL SET-UP CYCLE

- The Master operator starts opening at slow speed after 4 beeps of start signal. At the end of the opening cycle, a prolonged 3 seconds beep, will signal the end of the Master operator set-up. The Master operator leaf remains opened to permit the set-up of the slave operator.
- The Slave operator starts opening at slow speed after 4 beeps of start signal. At the end of the opening cycle, a prolonged 3 seconds beep, will signal the end of the Slave operator set-up.
- The set-up is now completed, the closing cycle start automatically providing to close as first the slave operator's and then after a delay time the master operator's.

Just for model SMT-B e SMT:
The set-up cycle of the operator without spring is fully operated by the motor, and so the function S02 must not take in to account.
The set-up steps for these operators are the following:
Slow opening of the Master operator and leaf hold in opening position;
Slow opening of the Slave operator ;
Slow closing of the Slave operator, prolonged 3 seconds beep at the end of the closing to signal the end of the Slave operator set-up.
Slow closing of the Master operator, prolonged 3 seconds beep at the end of the closing to signal the end of the Master operator set-up.

29.3) FUNCTIONAL TESTING

Select the automatic operation of the door using the program selector. If you use the manual switch, set the program at state **I.**
Refer to par. "program Selectors " that describe the types of selectors available to set the operating mode of the automatic doors.
To start an opening cycle give an impulse by the push-button PS1 (Start) on the module PWN-T of the Master operator, or operate the other opening control devices (as radar, mat, etc.).

Verify that opening and closing cycle takes place correctly. During the opening cycle the Slave leaf start with a predetermined delay with respect to Master leaf, as well as in the closing cycle is that the Master leaf that start with a predetermined delay with respect to Slave leaf. The delay between the leaves at the start is crucial to avoid that it can come across each other. To change the preset delay door go to "Switch and potentiometer" and set: On the parameter P19 the desired value of delay in opening ; on the parameter P20 the desired value of delay in closing (see par. 19.2 "Setting parameters").

Verify that the input device and safety sensors are functioning; to adjust the detection range of the sensors, refer to the instructions supplied with the sensor. The detection of the opening safety sensor due to the arrest of the movement only of the leaf on which it is installed. The detection of the closing safety sensor causes the inversion of the movement in opening of both doors.

During the movement of the door an intermittent buzzer sound may be hear. It's an indication that the limit power use by the operator it's near the maximum available, Occur especially if the size and the weight of the leaf are approaching the limits permitted. A short beep of the buzzer when leaf starting is to be considered normal because the inrush phase is the time in which it is required more strength. Adjust the power stroke with parameter P04 by the programmer DSEL N-(par.19.2 see "Setting parameters"). Power stroke P04 must be set on both master and slave operators separately (see par. 19 "Functions and Adjustments"). To turn off the audible buzzer that signal the power limit, set the F34 ON (see par. "Setting Functions"), in this case independently on the two operators.

☞
The sound of the buzzer for almost the entire cycle means that the leaf exceeds the permissible limits, or that the installation dimensions given in the drawings of installation have not been met, or that are present to much friction on the frame, in which case the automatic door has difficulty moving and may fail to complete the cycle of opening and

Safety in case of impact: verify that opposing an obstacle to the movement of a door, the operator stop and reverse the direction of travel of both doors

Every time, after powering the system, the first cycle of opening occurs at slow speed and can be selected with the function F31 if the leafs starts together, or starts respecting the leaf delay.
F31 = OFF in the first cycle of opening the doors start together.
F31 = ON in the first cycle of opening the doors start, respecting the leaf delay.
It is recommended to keep the default setting (F31 OFF) if the door is not provided with coordinator mechanical closure, which guarantees the correct position of the doors during the manual closure in the absence of power.

To set functions available see par. “Setting Functions”.
To adjust parameters see par. “Setting parameters”.

The operation of set-up must be repeated in the case of variation of one of the following conditions: weight of the door, opening angle of the leaf, spring loading, replacement of the logic board L-NEP or the mechanical unit inside the operator Neptis.
To repeat the set-up, follow the steps described in the previous section. 29.2 (points 4, 5, 6).

29.4) PEDeSTRIAN OPENING

With a double door it's possible to select the pedestrian opening, in which only Master operator open.

- If is installed the program selector N-digital DSEL (F01 = ON), press the * push-button to activate the pedestrian opening.

- If is installed the manual selector switch or the mechanical key EV-MSEL (F01 = OFF), in order to activate the pedestrian opening is necessary to set the **F15 = ON**.

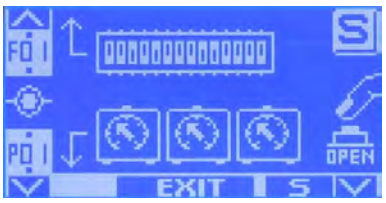
Then you have to choose what position on the selector must be enabled pedestrian opening:
F16 = OFF: pedestrian opening in position **0** on the manual selector program.
pedestrian opening in position ⇪ on the mechanical selector EV-MSEL..
F16 = ON : pedestrian opening in position **II** on the manual selector program.
pedestrian opening in position 🔒 on the mechanical selector EV-MSEL.

PEDESTRIAN OPENING WORKING MODE
Any opening activation via internal and external radars inputs and with the push push & go actuate partial opening of the door, then only the leaf Master operate. Any opening activation via Start, OPEN input and with the remote control Spyco combined with radio receiver EN/RF1 cause the complete opening of both doors.

29.5) CONSIDERATION ON THE USE OF N-DSEL PROGRAMMER IN A DOUBLE DOOR SYSTEM.

With the digital programmer N-DSEL is possible to operate separately on operators Master and Slave as regards the following sections of the programming menu and general area information.

a) FUNCTIONS AND PARAMETERS



pressing the F3 button you switch from Master to Slave and vice versa

Master operator **Slave operator**

b) MAINTENANCE

pressing the F3 button you switch from Master to Slave and vice versa

Master operator **Slave operator**

If the display shows the letter M on the N-programmer DSEL operations it's related to the Master, if display show letter S operation performed it's related to the slave operator.

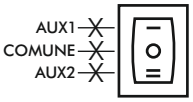
c) INFO AREA AND MEMORY EVENTS

Also the informations and the events can be accessed individually. Once you enter in the information menu as described in par. 22, press the F3 button to selected on which operator you want to display information and events. At the top right of the display will show the letter M if the information regarding the Master operator, the letter S if they relate to the operator Slave.

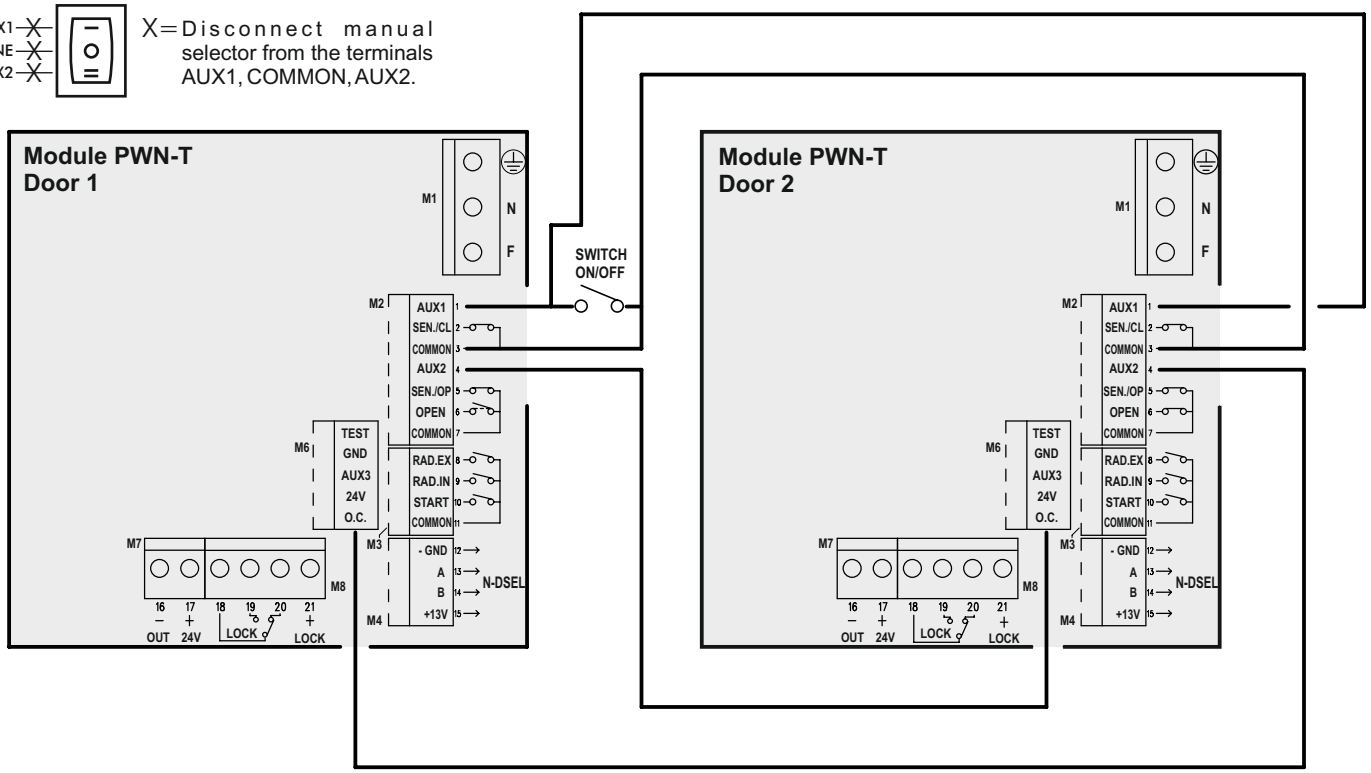
30) INTERLOCK SYSTEM

The interlock system is used when two automatic doors must open one at a time, so they must not open together.

30.1) INTERLOCK ELECTRIC CONNECTION



X= Disconnect manual selector from the terminals AUX1, COMMON, AUX2.



The figure show electrical connection scheme between two independently operators in Interlock configuration.

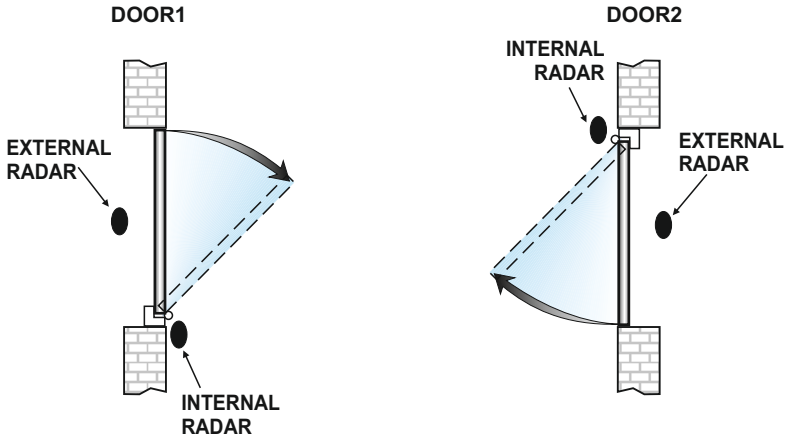
- Terminal 29 (O.C.) on PWN-T of door 1 must be connected at terminal 4 (AUX2) of door 2.
- Terminal 29 (O.C.) on PWN-T of door 2 must be connected at terminal 4 (AUX2) of door 1.
- Terminals 3 (Common) on both PWN-T must be connected to each other.
- By connecting a switch (SWITCH ON/OFF) between the terminals 3 (COMMON) and 1 (AUX1) on both PWN-T, it is possible to disable the Interlock function (with the contact closed) and to re-enable the function (with the contact open).

The use of this switch is optional, it is used only to disable temporarily the interlock detection and to allow the free passage between the two doors.

To use Interlock functioning it's necessary to install digital programmer N-DSEL as a program selector on each door.
It is not possible use the manual selector or mechanical selector with key EV-MSEL.

In case of double leaf door connect only Master operator.

30.2) INTERLOCK APPLICATION WITH INDEPENDENT INTERNAL RADAR



Independent internal radar for each door is used when the distance between two doors is enough to not allow interference in detection from both radar.

- Set the function **F26 = ON** in both operators.
- Select which of two doors firstly opening in case of simultaneous command on both:
  F27 = OFF: Opening with 0,5 seconds of delay after command.
  F27 = ON : Opening immediately after command.
  Set function F27 =ON on the door which opens first, F27 = OFF on the other door.

- Choose whether you want to store, or not, the opening control on the radar in a door when the other door still in movement.
  F28 = OFF: disable storage opening command.
  To open a door is necessary to activate again the radar when the other door is closed.
  F28 = ON: enable storage opening command.
  To open one of the two doors can activate the radar even when the other door still moving;
  the opening will be automatically executed as soon as the door in moving stop in closed position.
- It's possible to override the interlock function (one of the door open even if the other door has not yet closed) in case one door have it's sensors activated for a time set by parameter P27. The interlock function come back to normal when the door arrived to fully close.

P27 = 0% : function is disabled and second door opening only after first closed.
P27 = 01% : second door opening after 10 seconds from first door open, if its radar is continuously detect.
P27 = 100%: second door opening after 2 minutes from first door open, if its radar continuously detect.

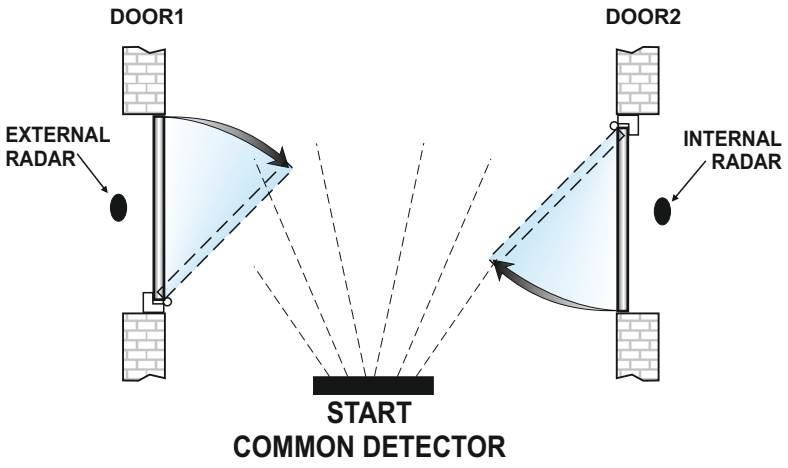
Steps of interlock operation are the following:

a.) person comes from outside activates the radar of the door 1 and the door 1 is opened;
b.) person enter inside area between two doors;
c.) door 1 closes after pause time;
d.) person must activate internal radar of second door to obtain second door opening;
e.) door 2 opening after door 1 closed;
f.) person enter from door 2, and this closes at the end of pause time.

The operation is the same coming from the opposite direction.

To open the door even when the other is open, it is necessary to operate the command of OPEN input.

30.3) INTERLOCK APPLICATION WITH ONLY ONE INTERNAL RADAR



It's possible to use a single sensor that cover the common inside area to open the door. Connected the sensor in parallel at Start input in both modules PWN-T of each operator, may be necessary when distance between two doors does not allow use of two independent radar.

- Set the function **F26 =ON** on both operators.
- Select which of the two ports must be opened first in the event of simultaneous control of both:
  F27 = OFF: opening with 0,5 seconds of delay after command.
  F27 = ON : opening immediately after command.
  Determine which of the two ports to be preferred to open immediately and set the function F27 = ON, on the other set F27 = OFF.

Steps of interlock operation are the following:

a.) person comes from outside activates the radar of the door 1 and the door 1 is opened;
b.) person enter inside area between two doors and detected by common sensor;
c.) door 1 closes after pause time (detection is disabled on Start input of door 1 during pause time, during closing cycle and during 5 seconds after end closing).
d.) door 2 opening after door 1 closed if internal common radar is active on Start input;
e.) person enter from door 2, and this closes at the end of pause time.

The operation is the same coming from the opposite direction.

To open the door even when the other is open, it is necessary to operate the command of OPEN input.

30.4) INTERLOCK APPLICATION WITH ELECTRIC-STRIKE DISABLED ON CLOSED DOORS

This application is only used when the two interlocked doors have electric-strike installed on the electro-lock output and want to keep off when both doors are closed (fail safe condition).
In two-way and one-way automatic work programs, when the door 1 receives an opening command electric-strike is activated (door locked)on door 2; at the end of door 1 closing cycle electric-strike it's deactivated on door2. The operation is the same coming from the opposite direction.
In the “Night lock” work program electric-strike is activated with closed door and to open the door it's necessary give a command on AUX3 input.
To open the door even when the other is open, it is necessary to operate the command of OPEN input.

31) MEANING OF THE ACOUSTIC SIGNAL

On the logic board L-NEP is present a buzzer which emits acoustic signals, which corresponds to a meaning depending on the number of beeps emitted and the duration of the sound.

ACOUSTIC SIGNAL (BEEP)	MEANING
8 BIP short and fast	Operator without set-up at power up.
5 BIP short	Pressing the push button PS1 on the PWN-T board with the operator without initial set-up and manual program selector in position 0 (manual).
BIP extended	For as long as you hold down the push button PS1 on the PWN-T board, with operator without initial set-up and manual program selector in position **I** or **II**.
4 BIP short	Warning signal that door start to move slowly in the initial phase of the cycle set-up.
Long sound (3 seconds)	Initial set-up completed correctly.
Extended or blinking sound (during movement)	The limit of power that the operator is able to supply to the motor is exceeding during the movement of the leaf. This warning is activated if the function F34 = OFF. To disable this acoustic signal set F34 = ON
1 BIP medium	After power up with an operator previously set.
5 BIP medium	Encoder is disconnected or malfunctioning or motor is disconnected or malfunctioning.
1 BIP medium(before opening)	Test of the safety sensor in opening failed.
1 BIP medium(before opening)	Battery faulty or low level
1 BIP medium (before closing)	Test of the safety sensor in closing failed.
1 BIP long (1 second)	Internal fault detection.

32) MAINTENANCE PROGRAM

To guarantee and to keep a secure functioning in door's lifetime it recommended make maintenance every 6 months.

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Warning!
Before work on the operator cut main power line.

- Check that all fixing screws are well tightened.
- Clean and lubricate moving and sliding components.
- Lubricate closing spring if present.
- Check wiring connections.
- Check that arm connection screw are well tightened.
- Check that the door wing is stable and that the movement is fluent and with no friction from ”door open” position up to “door closed” position.
- Check the condition of the hinges and lubricate it.
- Check that speeds, timing, and safety functions are well adjust.
- Check that safety and activation sensors are properly functioning.
- Verify if door with spring closes at damping speed without power supply.

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Warning!
Any part that appear damaged or worn must be changed.

Make use only of original spare parts; for this purpose check LABEL price list.

Neptis

Made in Italy
by

LABEL S.p.A.

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